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ON SOME ASPECTS OF SMALLPOX IN INFANTS
AND CHILDREN.

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SMALLPOX must be considered as the most interesting of the eruptive fevers ; since the earliest times it has been the unremitting scourge of mankind and has been regarded with the greatest dread in every country in the world. Its history, as it affects the incidence on infancy and childhood, is instructive.

Until the commencement of the nineteenth century this disease possessed a far greater degree of importance than that which attaches to it at the present time. It has always been attended with a high mortality whenever introduced into an unprotected community for the first time ; for example, in Mexico, where it was introduced by the Spaniards under Cortez in the sixteenth century, or in the West Indies in the slave importations.

In the eighteenth or nineteenth centuries in England it attained a high degree of intensity, and the mortality reached, on an average, one tenth the annual deaths of the entire population : nine tenths of the deaths occurred under five years of age and nearly all the remainder between five and ten years. Smallpox was therefore essentially a disease of childhood. This was the case, at any rate,

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in the majority of the large provincial towns, such as Manchester, Chester, Warrington and Glasgow; in these there was a rapidly growing population with an excess of births, due to large numbers of new families settling, and therefore a rapid increase in the number of children; at that time the disease was as prevalent as measles or whooping-cough is at the present time. Let us examine the age-distribution of the outbreak of 1837-40, which was one of the greatest in the whole history of Great Britain and was chiefly fatal to infants and children, and take, as an example, Glasgow, 1835-39.

Smallpox deaths.	Under 1 year.	1-2 years.	2-5 years.	5-10 years.	10-20 years.	20-30 years.	30-40 years.	Above 40 years.
2196	747 (34%)	641 (25%)	545 (25%)	111 (5%)	56	74	16	6
					(7%)			

After this great epidemic legislation was carried out in 1840, on the initiative of Lord Lansdowne, to enable the people to get their children vaccinated, if desired, at the cost of the ratepayers, and to prohibit the old practice of inoculation.

In 1853 vaccination was made compulsory, whilst in 1867 the machinery for the due carrying out of the law was strengthened.

A few years later an altered incidence of smallpox on children and adults began to be apparent, because infants were better vaccinated.

The next great epidemic in England in 1870-71 emphasised this change of incidence most remarkably.

	Smallpox deaths under 5 years.	Smallpox deaths over 5 years.
1868 . . .	1234 . . .	818
1869 . . .	892 . . .	673
1870 . . .	1245 . . .	1375
1871 . . .	7770 . . .	15356
1872 . . .	5658 . . .	13336

We find, therefore, in countries where vaccination is well carried out that adults are more frequently affected. The reason that so many unvaccinated children died under five years of age of this disease is explained by the fact that in the interval after a great epidemic, material in the shape of large numbers of susceptible children will gradually accumulate, especially in districts where vaccination is not strictly enforced, and thus the numbers of unvaccinated children in some districts may gradually reach as much as 20-30 per cent. of the births. Therefore, as regards children and infants, smallpox

attacks only those who are unvaccinated or those in whom the immunity conferred by a primary vaccination is gradually waning.

One fact, then, stands out clearly—that the prevalence of the disease has been greatly checked by vaccination, but smallpox in unvaccinated children has a severity and mortality at the present day almost as deadly as in pre-vaccination times.

It will not be necessary to enter further into the question of the merits of vaccination, which have been so conclusively established.

It is interesting to examine the various peculiarities of smallpox to be found amongst infants and children who have been well vaccinated, and in those who have never been submitted to this beneficial operation.

Before doing so, it will be well to give an outline of the usual course of the disease.

ONSET OF SYMPTOMS.

After an incubation of twelve days the early symptoms of smallpox are ushered in abruptly by fever, which frequently reaches 104° and 105° F.; severe prostration with various nervous and other disturbances may be present. The vomiting and nausea, more common in children than adults, are generally severe, and may recur, especially in children, for some considerable time after the onset.

The intense headache and pains in the loins, thighs and back which are usually met with in the adult are replaced in young children by frequent drowsiness and stupor and in some cases coma; even convulsions may occur, showing that the cerebral disturbance is severe in children. The fever and other symptoms rapidly subside about the third day as the specific eruption begins to appear on the various parts of the body.

PRODROMAL RASHES.

During the initial feverish stage prodromal rashes frequently make their appearance and may be either erythematous or hæmorrhagic in character. In infants and children these pre-variolar rashes are not so often seen as in adults.

The erythematous rashes may be only of a localised, transient and superficial character, or may be found distributed all over the body and may resemble the rashes of scarlet fever and measles. One form, the "lobster rash," is a very intense red erythema which is general all over the body; it is common in hæmorrhagic cases and is of grave prognostic importance.

The hæmorrhagic rashes, which appear from the first to the third day, are petechial or purpuric in character, and are perhaps more common than the above mentioned; from the fact that they are hæmorrhages into the skin, they remain for some time; hence they are more likely to be noticed. The rash appears at first as dull red areas and consists of two distinct elements—an erythema which can be removed by pressure, and a punctate petechial element which remains. The small punctate spots of dull red or purple colour are scattered or closely packed in one localised area, and may subsequently appear as a dull purple or yellow-red stippling. The usual site for these rashes is on the lower part of the abdomen, but always in the inguinal region, extending to about two inches below Poupart's ligament and on the inner side of the thigh. The rash spreads on the abdomen in an ill-defined manner, gradually fading off, and may spread towards the sides and back and upwards to the axillæ; when present it is of great diagnostic importance and is quite peculiar to this disease.

PAPULAR ERUPTION.

On the third day of the disease the characteristic smallpox eruption appears in the form of small red spots about the size of a pin's head, first seen on the face, forehead and wrists; they extend to the trunks and arms and lastly to the lower extremities. The lesions are most numerous on the face and extremities, much more so than on the trunk, and more numerous on the distal portions of the extremities than on the proximal portions. They are more numerous on the back and buttocks than on the abdomen. The eruption prefers the extensor to the flexor surfaces; hollows such as the anterior triangle of the neck, the axillæ, etc., frequently escape.

These spots in the early stage cannot definitely be felt as distinct elevations above the skin and disappear on pressure. Shortly after, however, they swell into raised pink papules, fairly hard and easily perceptible to the touch. They grow in size and can frequently be recognised as "shotty," but this depends on their position in the skin and the tension of the contents due to effused fluid. This "shotty" character of the papules is not to be relied upon as a diagnostic sign.

After a day or so, when they have become, in typical cases, rounded and defined, vesiculation develops, and at the beginning of the third day of the eruption the papules have become vesicular. These vesicles are loculated, and if pricked the clear contents will escape in small amount.

The loculation is due to trabeculae running through the interior, which divide the pock into several compartments. It sometimes happens that as the vesicle is distended with exuded fluid, strands uniting the floor and roof of the vesicle tie the centre down and produce an umbilicated appearance; this subsequently disappears as suppuration takes place; umbilication is also met with in some cases of chickenpox, and is, therefore, an unreliable sign in diagnosis.



FIG. 1.—A case of smallpox of moderate severity, showing the characteristic distribution of the rash.

These vesicles gradually become opaque and grey in colour and the contents become pustular. If distinct, each has an areola of inflammatory redness around it. As these pustules enlarge, the face, hands and feet become swollen.

This stage is reached about the sixth day of the eruption, and by the eighth, ninth and tenth day in favourable cases the pustules begin to dry up with the formation of crusts. This desiccation is usually first apparent on the face.

All these changes are best made out in cases of discrete smallpox; the majority of the large confluent pustules in severe cases burst, and

the contents, consisting of pus and other cellular *débris*, form scabs which encrust the surface of the body for some time.

When extensive areas of confluent pustules are found, the pocks never attain such large size as those which are isolated. The latter are chiefly found on the backs of the hands, fingers, arms, legs, and about the ankles and feet (see Fig. 1). These may become large, tense and yellow in colour.

The degree of danger to life is directly proportional to the amount of confluence of eruption.

The above gives an outline of the gradual evolution of the onset and eruption; on the appearance of the eruption all signs of constitutional disturbances disappear.

With the maturation of the papules and onset of suppuration the temperature again rises (secondary fever), and the most trying period for the patient is ushered in. In confluent smallpox, as found in the unvaccinated child, the secondary fever is always more severe than in the discrete form of smallpox. The patient becomes delirious, the pulse is small and feeble, and tongue dry and brown; sometimes a condition of intense restlessness or a fit of convulsions in children usher in a fatal issue, and this is particularly the case from the twelfth to fourteenth day. The formation of pocks on the tongue and other parts of the mouth, especially when they reach the swollen and suppurative stages, renders deglutition extremely difficult in bad cases owing to the irritated and inflamed state of the mouth. Respiratory complications are more frequent in children.

The mortality in unvaccinated infants and children ranges from 50 to 70 per cent.; children under two years of age seldom recover when the eruption is confluent, whilst those between five and ten years have a lower mortality than those under five years.

SMALLPOX IN VACCINATED CHILDREN.

What is the incidence and severity of smallpox in cases where vaccination has been properly performed in infancy? An examination of the annexed table shows in tabular form the results of the examination of 215 cases of smallpox in children under fifteen years of age, taken from the smallpox records of the Liverpool hospitals during the past ten years. It reveals the fact that amongst the well vaccinated no cases are to be found under two years, and only seven cases between two and five years of age.

215 Cases of Smallpox under 15 years, arranged according to Age-Period and Severity.

	Under 2 years.		2-5 years.		5-10 years.		10-15 years.	
	Vaccinated.	Unvaccinated.	Vaccinated.	Unvaccinated.	Vaccinated.	Unvaccinated.	Vaccinated.	Unvaccinated.
A. Modified discrete and discrete	No cases	3	7	3	31	6	54	9
B. Profuse discrete and semi-confluent	No cases	9	No cases	15	3	15	8	19
C. Confluent and death	No cases	17	No cases	8	No cases	5	No cases	3
Total	No cases	29	7	26	34	26	62	31
Deaths alone	0	17	0	8	0	5	0	1

The same Group of 215 Cases of Smallpox, showing Percentage of Severity amongst the Vaccinated and Unvaccinated.

	Under 2 years.		2-5 years.		5-10 years.		10-15 years.	
	Vaccinated.	Unvaccinated.	Vaccinated.	Unvaccinated.	Vaccinated.	Unvaccinated.	Vaccinated.	Unvaccinated.
A. Modified discrete and discrete	No cases	10·3 %	100 %	11·5 %	91 %	23 %	87 %	29 %
B. Profuse discrete and semi-confluent	No cases	31 %	No cases	57 %	9 %	57 %	13 %	61·3 %
C. Confluent and death	No cases	58 %	No cases	30·7 %	No cases	19 %	No cases	9·7 %
Percentage case mortality vaccinated and unvaccinated	—	58 %	—	30·6 %	—	19 %	—	3·2 %

The immunity conferred by vaccination in infancy, which protected the infant so thoroughly in early life, gradually loses its effect, and cases begin to appear amongst the older children, never, however, with such serious effects as those to be found amongst

unvaccinated children. Indeed, between 2-5 years all, or 100 per cent., are very mild cases, between 5 and 10 years over 90 per cent. are very mild, and between 10 and 15 years over 80 per cent. are in the same category. No severe cases are to be found.

The accompanying Fig. 1 shows the character of the eruption in a case of moderate severity; the distribution of the rash is particularly well shown.

Having shown that it is of extreme rarity to come across a case of smallpox in vaccinated children under five years of age, it will be of interest to examine the following family group which illustrates the gradual loss of immunity.

Case.	Age.	Number.	Scar-area.	Character of disease.	Remarks.
1	4 years	1	$\frac{2}{3}$ sq. inch.	Modified discrete	Papules very few, not over 7-8, and not vesicular
2	7 "	1	"	Ditto	Ditto
3	9 "	1	"	Ditto	Papules few, more numerous than in Cases 1 and 2, not vesicular
4	12 "	1	"	Modified discrete mild	Papules very numerous, became vesicular, but soon dried up
5	15 "	1	"	Ditto	Ditto
6	37 "	3	$1\frac{1}{8}$ sq. inch	Discrete	Eruption more marked than in the children, and passed through the characteristic stages.

This series shows the gradual loss of the modifying power in the vaccination as age advances, and it is interesting as shown in the same family, the vaccination scar-area being the same in each case, except in the mother, whose scar-areas were much larger, and therefore her protection showed a proportionally larger degree of modifying power.

CONCURRENT SMALLPOX AND VACCINIA.

Another interesting aspect of smallpox amongst children is its occurrence concurrently with vaccination. This happens occasionally when the pregnant mother has been admitted to hospital with smallpox and her child is born in hospital, is vaccinated on birth, but too late to prevent the development of the disease. It also occurs during the vaccinations carried out amongst the contacts of a household when a case of smallpox has developed. The effect of the concurrent vaccination on the subsequent smallpox is of extreme

interest. The concurrent vaccination performed on a susceptible infant, if it does not entirely prevent, as it will do if performed within one or two days of the day of infection with smallpox, is found to modify the disease in the following directions. The papules may be very few and limited to isolated parts of the body; they pass,



FIG. 2.—A case of smallpox modified by vaccination. The baby was vaccinated successfully at the end of third day of incubation. (Case 3.)

however, through the typical course of evolution; in addition to the limitation of papules the eruption itself is frequently modified, the lesions being superficially placed and maturing rapidly, the crusts rapidly inspissating and dropping off.

It is found that this concurrent vaccination, if done within the first three days of infection, has the effect of almost entirely neutralising the smallpox so that no symptoms or signs of the disease appear, or

the attack will be very mild, such as the appearance of a few papules, which may never become vesicles, but simply die away.

The later in the course of the incubation stage that vaccination is performed, the more severe is the type of disease which appears, this varying with individual susceptibility, but the disease is never more than of moderate severity; if the vaccination is attempted subsequently to the development of symptoms, it does not "take" in the typical way and the disease pursues its normal course, being usually, as already stated, of a very severe type.

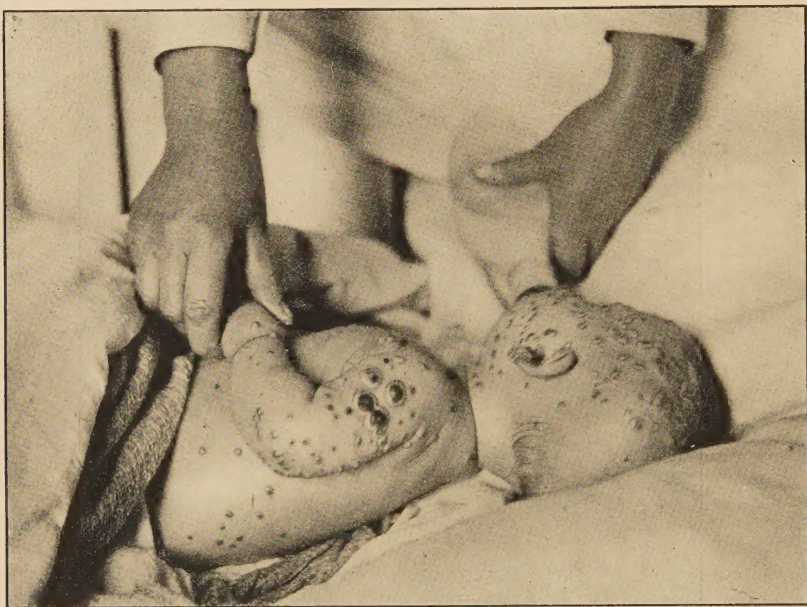


FIG. 3.—A case of smallpox modified by vaccination. The vaccination was successfully performed on the eighth day of incubation; the eruption was profuse, yet complete recovery took place. (Case 6.)

An instructive series of concurrent cases in infants and children is shown in the following series. The majority of them were born in hospital of variolous mothers and vaccinated within a few days of infection; two are shown to have been infected *in utero*.

CASES 1 and 2.—Nursed by smallpox mothers, and presumed to have been infected with smallpox on the day of birth and the day following respectively. They were vaccinated within twenty-four hours with entire absence of development of any symptoms or signs of the disease. They were nursed in a smallpox ward, with other

patients, by their own mothers who had smallpox and until the mothers were convalescent and discharged.

The vaccination was entirely successful and protection was afforded.

CASES 3 and 4 were vaccinated late in the incubation period. Case 3 was vaccinated successfully at the end of the third day of incubation. The mother nursed the child, who had a very mild attack. The eruption was very sparse and scattered (twenty papules



FIG. 4.—A severe case of smallpox in an unvaccinated baby. The eruption is very profuse and shows a typical distribution.

in all). The individual papules passed rapidly through the preliminary stages to pustulation (see Fig. 2).

CASE 4 was vaccinated on the fourth day and had a very mild attack.

CASE 5 was vaccinated on the fifth day of incubation (the day following birth) and showed a more profuse eruption of smallpox than the previous cases. This baby was infected *in utero*.

CASE 6.—This baby was only vaccinated eight days after infection; the eruption was fairly profuse, but complete recovery took place (see Fig. 3).

CASE 7.—The infant was infected *in utero* and was not vaccinated until the ninth day after infection. In this case the vaccination was carried out too late to neutralise or modify the course of the disease. The papules were very numerous and unmodified. The child died.

It is of interest to note that vaccination, in rendering attacks of smallpox which may succeed it of much less severity, and therefore less dangerous, does not in all instances diminish the intensity of the primary fever, and the initial symptoms are sometimes sharp and severe.

SMALLPOX IN UNVACCINATED CHILDREN.

As already mentioned, smallpox in unvaccinated children is always very severe (see Fig. 4). A glance at the table on p. 7 will show the percentage of cases to be found amongst the unvaccinated children at each period up to fifteen years, and also the degrees of severity, and it will be evident that 50 per cent. of the cases are of the confluent type and die; whilst only 10 per cent. escape with a mild type of eruption. In spite, then, of the best medical knowledge as regards treatment, the mortality is almost as heavy as in the seventeenth and eighteenth centuries. Contrast this with the total absence of cases in vaccinated children under two years of age, and 100 per cent. of mild cases between two and five years, the deaths being absolutely *nil* up to fifteen years amongst the vaccinated. Such are the peculiarities of smallpox as found in vaccinated and unvaccinated infants and children.

DIAGNOSIS.

The diagnosis of smallpox from certain other diseases, especially of infants and children, is of great importance and requires great care; it is convenient to divide the question of diagnosis under three headings, according as to whether the disease is in the early, eruptive or late stage. In the early period before the papular rash appears the diagnosis may be difficult, and the disease may simulate such diseases as influenza, lumbago, or an acute febrile attack. In lumbago there will be an absence of fever, but in influenza the history will be the only guide, and it may be often necessary to wait until the eruption takes place, because fever and backache are common.

Should a prodromal petechial rash appear of typical character and distribution with associated pyrexia and symptoms as previously mentioned a positive diagnosis can probably be made.

The rash may be scarlatiniform in appearance, and in this case the vomiting, the condition of the tongue, the swelling and reddening of the fauces with enlargement of the cervical glands will help in distinguishing scarlet fever from smallpox. The early scarlatiniform rash of variola is found chiefly on the extensor aspects of the limbs, but these rashes are rare in children.

The initial sickness and vomiting of scarlet fever also resemble that of smallpox, but are not of so long continuance. The cases most likely to be confusing are those where a scarlatiniform rash precedes a case of hæmorrhagic smallpox.

Rashes which closely simulate the initial or hæmorrhagic rash of smallpox are the various forms of purpura hæmorrhagica, but the constitutional symptoms, pyrexia, etc., associated with the onset of smallpox, are absent.

In the early stage of eruption the rash resembles that of measles, but in measles the rash appears on the fourth day of illness, catarrhal symptoms are present, and the temperature continues to rise after the rash appears, whilst in smallpox the rash appears, as a rule, on the third day and the temperature falls and symptoms subside. Gastric disturbance is less marked. The initial measles-like rash of smallpox is not found on the face, and this distinguishes the onset of measles; in the latter disease there are also catarrhal symptoms and Koplik's spots.

In the vesicular stage smallpox resembles chickenpox and great difficulty may be experienced in distinguishing them. In the first place, adults are less frequently the subject of chickenpox, but an abundant eruption of chickenpox may mislead a physician, and chickenpox in adults may be associated with headache and backache.

The chief and important point in the diagnosis of smallpox is the relative distribution of the rash on the different parts of the body and this ought to be particularly emphasised. In text-books, as a rule, the particular character of the papules, vesicles and pustules is minutely described, and the distribution, the most important guide from a diagnostic standpoint, is overlooked and more weight given to "shottiness" and "umbilication." Of course it must be clearly recognised that the diagnosis of smallpox cannot be wholly grasped from text-books; it must be studied clinically. The lesions of chickenpox are marked on the chest and back. They also appear numerously on the face, but several hours later. On the extremities they are much less marked, and when present, are more on the proximal than the distal portions.

The lesions of chickenpox are more superficial than in smallpox, and in contrast with smallpox vesicles, which are circular or uniform in character and mature in a manner depending on the day of the eruption, the chickenpox vesicles are variable in shape, round or irregular, whilst they mature rapidly, come out on the trunk first and following in crops in the course of a few hours. On examining the rash, say, twenty-four hours after eruption on the back, one sees numerous lesions, irregular in shape and size in different stages of evolution, some in the papular stage, others in the vesicular or pustular stages or ruptured and forming scabs.

Too much stress must not be laid on the multilocular character of the smallpox vesicles when pricked, for it is unreliable; this also applies to the question of umbilication.

Drug rashes sometimes resemble initial and other smallpox rashes, *e.g.* copaiba may produce a generalised erythematous rash. Cases of urticarial rashes or poisoning by shellfish may closely simulate smallpox; there may be several days' illness or debility and a characteristic eruption on the face and extremities, but the limited area of distribution, absence of backache and fever will suffice to distinguish them. Iodide and bromide rashes can easily be distinguished by the absence of initial symptoms and history.

In addition to chickenpox the following diseases with pustular eruptions may simulate smallpox in the later stages of eruption. In the case of syphilides careful inquiry into the history and the manner of eruption and its colour, the presence of copper-coloured scaly papules along with the pustules and the presence of enlarged glands may help in the diagnosis.

Various forms of acne with large pustules on the face may resemble those of modified smallpox; similar lesions are also frequently found on the shoulders and have been mistaken for smallpox, but there is an absence of a vesicular stage, constitutional symptoms or pyrexia.

Herpes has also been mistaken for smallpox, but the eruption has a different distribution and there are no initial symptoms similar to smallpox.

Scabies is a disease which frequently simulates smallpox, especially in bad cases where there is bullous impetigo or eczematous surfaces, caused by scratching, and in those where some of the lesions occur on the face, to be found more commonly in babies at the breast. The presence of itching, however, and the polymorphous character of the eruption will easily guide one.

There is a disease, uncommon in this country, which simulates

smallpox and chickenpox. It is chiefly found in the United States, but cases have occasionally been imported; it is due to a small mite which infests grain and straw causing "straw itch" (dermatitis Schambergi). When this mite becomes abundant in straw it will attack the labourers, but may also attack those who sleep on mattresses made from the straw.

The eruption is made up of wheals surmounted by a vesicle and the contents ultimately become turbid and pustular.

The lesions are most abundant on the trunk and are slight on the face and extremities. Attention must be given to the history, the character of the onset and eruption.

It must be clearly recognised that the effects of vaccination in modifying not only the extent, but also the character of a smallpox eruption, may cause some difficulty in diagnosis, and many of our main diagnostic points may have to be reconsidered in this light, especially that of relative density of eruption.

THE NERVOUS COMPLICATIONS OF VARICELLA.

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NERVOUS complications in varicella are so rare that they receive no attention in the majority of descriptions of that infection, nor were any instances quoted in a discussion held in 1894 upon the forms of paralysis following various infective disorders (39). Practically the only paper dealing with this particular subject is one by Caccia (7) published in 1904.

Varicella being so common and associated nervous lesions so rare, it might be held that the connection between them is merely casual and not causal. There seems, however, to be good clinical evidence that focal lesions of the central nervous system (encephalomyelitis) may complicate varicella, although it must be allowed that the evidence for encephalitis is curiously stronger than that pointing to spinal cord lesions. Possibly these focal lesions are analogous to the lesions of the skin and mucous membranes in varicella.

The nature of the illness in varicella would not appear to favour

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the possibility of such toxic nervous complications as peripheral neuritis, and although such cases have been reported the evidence for them is not entirely satisfactory.

The association between varicella and herpes zoster has been pointed out by several observers and quite recently several fresh cases have been reported in the English medical journals.

Numerous other complications, rather less directly associated with varicella infection, have been recorded and are here reviewed.

In this paper we bring forward a new case of encephalitis complicating varicella and review the other examples of nervous complications hitherto reported.

ENCEPHALITIS.

(1) The following case has recently been under our care :

A boy, aged 2½ years, developed a mild attack of varicella. The rash was moderate in amount and the constitutional symptoms were not severe, the temperature not exceeding 100° F. Nothing unusual was noticed until the morning of the fifth day, when after a normal night the child was found to be unable to stand, unable to talk distinctly, and to show a tremor of the limbs, head and tongue. The onset of these symptoms was not associated with any fresh rash or rise of temperature. The tremor of the tongue quickly passed off, but when the child was seen four days later the tremor was very marked in the limbs. It was a slow rhythmic movement, which prevented him from standing without support. The movements of the limbs, particularly of the arms, were slow and stiff. There was no loss of emotional expression but the child was irritable and emotional. The cranial nerves and reflexes were normal. From the similarity between this case and those to be referred to immediately a good prognosis was given. In a few days the tremor gradually diminished until it became only noticeable during excitement, and at the end of a month from the time of onset it had practically disappeared altogether. Since then the boy has become quite normal again except that he is thought to be a little more excitable than previously.

The character of the tremor in this case and the general appearance of the child (as though he were shivering) were exactly similar to those seen in cases described by one of us under the title of "Acute Tremor" (27). These were regarded as due to a destructive lesion of the cerebello-rubro-spinal system. In the previous cases the cause was held to be an encephalitis due to the same agent as attacking the cord produces acute poliomyelitis. In the present case we would regard the localisation of the lesion as similar, but its origin connected directly with varicella. Possibly the brain lesion was of a similar nature as the lesion produced by varicella in the skin and mucous membranes.

(2) A very similar case has been reported by Caccia (7).

A boy, aged 3 years, developed tremor of the limbs on the fifth day of varicella. Its onset was preceded by two days' vomiting. The tremor was most marked in the right

arm. The boy was unable to stand erect. The speech was slow but not scanning. There seemed some weakness of the right leg; no sensory or electrical changes. The muscular tone was somewhat in excess, ankle clonus, increase of the knee-jerk and extensor plantar response were present on the right side. Cerebro-spinal fluid was sterile, containing 0·3 per cent. albumin. At the end of four weeks all symptoms had disappeared. Caccia regarded the case as one of encephalitis of the left cerebral hemisphere.

(3) Marfan (24) records a clear case of encephalitis affecting the oculo-motor nuclei.

A girl, aged 22 months, developed, a few days after the onset of varicella, bilateral ptosis, divergent squint and immobility of the eyes, except in abduction. Reaction to light and accommodation were preserved. A few months later, Rolleston (32) mentions, the child had recovered except for a slight degree of sluggishness in the levatores palpebrarum.

(4) Osler (31) notes a case of infantile hemiplegia complicating varicella.

Other possible examples of encephalitis are less satisfactory. Koplik (21) has described two cases of boys developing on the tenth and fourteenth days of varicella a condition resembling one of tuberculous meningitis with increasing sopor, with restlessness and delirium, mild hydrocephalus, paresis of all four extremities, and in one case, difficulty in swallowing. He regarded them as instances of polio-encephalitis, but as both cases made a good recovery without developing any paralysis, they would possibly be called by many examples of meningismus.

Bouvy (5) has recorded a case of *sclérose en plaques* developing in a child of three years old soon after varicella. Bearing in mind Batten's views on the rarity of this condition in children, and the similarity between it and cerebellar encephalitis, it is possible that this case was an example of the latter condition.

POLIOMYELITIS.

The only case recorded under this heading is one by Marfan (25), but a glance at the title of his paper shows that the clinical condition was very complicated and the case is not a very satisfactory one for our purpose.

Rossi (33) records a very suggestive case of flaccid paralysis of the right arm occurring in a boy of eleven months and developing with the onset of the chickenpox rash. Accident could be excluded, and the author regards the condition as one of toxic origin due to the varicella toxin. He excludes a spinal cord lesion since no atrophy of the muscles supervened, but the paralysis very quickly disappeared

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so that this does not seem a satisfactory argument. The case is one which strongly suggests to our mind a poliomyelitis.

A very difficult case has been reported by Gay (10) as one of peripheral paralysis following varicella. In a child aged $2\frac{1}{2}$ years, a fortnight after the onset of an attack of varicella of moderate severity there developed suddenly flaccid paralysis of the lower extremities together with complete loss of sensation in the affected parts. The knee-jerks and plantar responses were absent, the abdominal reflexes brisk, the cremasteric dull. The author discusses the site of the lesion in this case and decides in favour of a peripheral rather than a central origin. Against this view, as he admits, is that the paralysis was of sudden onset, which would seem more suggestive of a wide-spread spinal cord lesion.

PERIPHERAL NEURITIS.

The cases reported by Rossi and Gay have already been discussed. The only other one we have been able to find in the literature is recorded by Allaire (1). A boy, aged 8 years, developed varicella. In addition to a wide-spread rash of ordinary nature there were two large bullæ which suppurated and formed ulcers which lasted for some weeks. The child also had a purulent discharge from one ear. A month after the onset of the rash the patient's voice became nasal in character and he regurgitated liquids through the nose. After a fortnight this began to improve, and at the same time the suppuration ceased in the ear and the ulcers on the skin cicatrised over, but there developed gradual loss of power in the left arm. The paresis was flaccid in type, the muscles showing slight atrophy with reaction of degeneration. Sensation was unimpaired. A few days later the child complained of diplopia, which was regarded as due to the paralysis of some muscle of the eye. Reaction to accommodation was normal.

Accepting the diagnosis of peripheral neuritis it is not easy, as the author admits, to be clear as to its cause. It is difficult to set aside the diagnosis of diphtheria, either faucial or cutaneous, in view of the paralysis of the soft palate. On the other hand, the possibility of variola must be considered, and both these considerations are difficult to dispose of, since the author did not see the case until the paralysis of the arm developed. Thirdly, the presence of foci of suppuration, which lasted for several weeks, makes the case rather different from an ordinary one of varicella. On the other hand, the author, after due consideration, regarded the neuritis as the effect of varicella.

HERPES ZOSTER.

The occasional association of herpes zoster and varicella has attracted the attention of a number of writers. It seems first to have been mentioned by Bókay (3) in 1892, and this author in 1909 (4) draws more definite attention to this associated condition. Cases have been recorded by Head (14), Corlett (11), Tremolières (37), Tourneux (36), Heim (15), and quite recently in English literature instances have been reported by Le Fenore (12), Jones (19), Bruce (6) and Walker (38).

The cases appear to fall into two groups. In one, an eruption of herpes zoster is rapidly (within twenty-four hours) followed by an ordinary rash of varicella. In the other, a malady which has passed as an attack of herpes has appeared to have been the source of varicella in others. It is possible that occasionally focal lesions similar to those which apparently may occur in the central nervous system may originate in the posterior root ganglia, thus producing an herpetic eruption.

OTHER NERVOUS COMPLICATIONS.

Convulsions complicating varicella have been the subject of contributions by Hunter (16), Kassowitz (20), Tham (35), and Cerf (9).

Intracranial complications of otitis media are rare complications of varicella. Lannois (22) states that chickenpox vesicles may occur in the ear and may set up otitis media and mastoiditis. Moy (28) describes the severe intracranial complications of otitis media (meningitis abscess and lateral sinus thrombosis). According to Jacod (18) the aural lesions of varicella are usually much milder than those of scarlatina or diphtheria, even mastoiditis being very rare.

Optic neuritis.—One case of this complicating varicella has been recorded by Chavernac (10). This author refers to another case, at that time unique, recorded by J. Hutchinson, jun. Antonelli (2) previously referred to this case of Hutchinson's as unique. Reference to Hutchinson's paper (17) shows, however, that the case of "a young woman of 28 years" was one of optic neuritis accompanying a secondary syphilitic eruption which was mistaken for variola! Chavernac's case seems, therefore, to be the only one recorded of optic neuritis complicating varicella.

Hæmorrhagic internal pachymeningitis has been recorded in a child, aged 13 months, by Mya (29). A delicate child with a

meningo-encephalocele protruding through the anterior fontanelle developed, nine days after the appearance of varicella, clonic twitchings of the lower part of the right side of the face. These spread to the left side and the child was feverish. The lateral ventricle was punctured and blood-stained fluid was withdrawn. The child died on the next day. Post mortem, a condition of hæmorrhagic pachymeningitis was found which was regarded as solely due to the varicella.

Sclérose en plaques has been described by Bouvy (5) as developing soon after varicella in a child, aged three years. This has already been discussed.

Neuromyositis has been recorded in a single case by Camus and Sézary (8). A child, aged 6 years, developed on the third day of varicella a painful contracture of the legs, which later showed atrophic changes. Five years afterwards there was still marked hyperæsthesia of the nerves and limbs with wasting and contractures. The case was regarded by Dejerine, in agreement with the authors, as one of polyneuritis with myositis.

Chorea has been noted to develop at the end of an attack of varicella by Menko (26), Netter (30), and Mackenzie (23).

Tuberculous meningitis has been recorded as a sequel to varicella by Castro Soffia (34).

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PSORIASIS IN INFANCY.

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PSORIASIS, that common but nevertheless obscure skin disease, is undoubtedly rare in infancy, although common enough in later childhood. Those authors who have taken the trouble to compile statistics relating to the age of incidence of the disease are agreed that in the majority of cases it first makes its appearance between the ages of six and sixteen years. Below the age of six it becomes less and less frequent as the age diminishes. Bulkley, the American dermatologist, who has paid particular attention to psoriasis, upon the treatment of which he holds peculiar vegetarian views, says that out of 366 cases he found that six began between the ages of four and five, five between three and four, and four between two and three years. The rarity of the disease in infancy is shown by the fact that in the first edition of his book Hebra stated that psoriasis was not seen below the age of six years. He had, however, subsequently to modify this statement, and Hebra's pupil and successor, Kaposi, published a case in a baby of eight months. Moreover, psoriasis was certainly recognised long before the time of Kaposi as occurring in early infancy, for in 1829 Billard published a case in a baby, aged two months, and the celebrated English dermatologist, Willan, described a special variety of psoriasis as psoriasis infantilis. Nevertheless, so recently as 1906, Burnet, in a paper on the ætiology of psoriasis, read before the Society for the Study of Disease in Children, stated that it was doubtful whether psoriasis occurred before the fifth year. In the times before the Wassermann reaction, probably some cases really psoriatic were labelled syphilitic, but all the same a fair number of undoubted cases of psoriasis in young infants are to be found in the literature.

The youngest which I have found recorded was published by Rille from Vienna as far back as 1895. The eruption seems to have started within a few days of birth, but was not seen by Rille until the baby was $5\frac{1}{2}$ weeks old, when the mother brought it up, not on account of the psoriasis, but for a troublesome eczema intertrigo or napkin rash. The father of this infant had suffered from psoriasis from the age of twenty, but it had three elder brothers and sisters who were, at any rate at the time of publication, free.

I have also found three other cases in which the disease made its appearance during the first year of life. They are :

(1) MacLeod's case of an infant, aged 6 months, in which the disease, diagnosed by the female members of the family as "chicken-pox," and therefore disregarded, had first appeared at the age of three months. It came under notice on account of napkin erythema. In this case there was no family taint.

(2) Abrahams' case in America, occurring in an infant first seen at the age of twelve weeks, but which had been present since seven weeks from birth. In this case no record of the family history is given.

(3) Benassi's case of an infant, aged 4 months, in whom there was a strong family taint.

The present case is that of a healthy-looking and thriving infant, aged 6 weeks, in which, according to the mother, the eruption had been present about a week when first seen by me. The eruption was very extensive, the greater part of the trunk, both on the ventral and dorsal aspects, was involved, and there were also large areas upon the limbs. The extensor surfaces of the limbs were a good deal more affected than the flexor, but the actual points of the elbows and knees were not worse than any other part. A somewhat remarkable feature was the involvement of the face, the central part of which was affected strongly, and the eruption also extended upward over the forehead on to the scalp, which was covered with a thick crust. Where the scaly erythematous eruption abutted on the healthy skin the dividing line was seen to be circinate, indicating that the eruption had originally consisted of circular patches, which had subsequently coalesced. The buttocks were affected with a napkin erythema of the ordinary type, and here it may perhaps be noted that many of these babies with psoriasis seem to have suffered in this way. This may be merely a coincidence or their skins may be specially sensitive. I am inclined to the view that it is merely a coincidence. The baby was the youngest of four brothers and sisters, aged respectively eleven, seven and four. All were healthy. I made careful inquiry, but could find no evidence of the presence of psoriasis in other members either of the father or mother's family. Naturally the possibility of this eruption being syphilitic in character was carefully considered, but not only was there no suggestion that such was the case from the healthy appearance of the child and the clear family history, but the Wassermann reaction was tested and found to be negative. The only other alternative diagnosis was that of seborrhœic dermatitis. This diagnosis was strongly supported by Dr. Adamson when the case was shown at the Dermatological

Section of the Royal Society of Medicine, but at that time the eruption had almost disappeared, except from the scalp, although a certain amount of erythema remained on the buttocks. Dr. MacLeod also on the same occasion remarked that the case referred to above, which he originally published as a case of psoriasis, he had afterwards reconsidered, and altered his diagnosis to seborrhœic dermatitis. Nevertheless, I adhere to my original diagnosis, especially as the disappearance of the eruption took place under the influence of liquid paraffin alone, without the application of any antiseptic. Seborrhœic dermatitis is usually refractory unless sulphur is used. Psoriasis in early childhood, *i. e.* at the age of four or five years, when it undoubtedly is sometimes seen, often yields, for the time at any rate, quite readily to treatment. The criterion which I chiefly value of the correctness or otherwise of my diagnosis is the possible recurrence of the eruption. If it recurs I shall claim that I am right; if it does not I shall confess that I am wrong.

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The Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, October the 24th, 1913.

The President, DR. LEONARD GUTHRIE, in the Chair.

Two Cases of Infantilism.—Dr. C. E. ZUNDEL.—Case 1: Girl, aged 13 years. Eldest of three; others healthy. Mother has had no miscarriages. Full-time child, “very small at birth.” Previous health: Measles at the age of four months, “anæmia” occasionally. Present complaint: “Does not seem to have grown since she was five years old.” Condition: Height, 3 ft. 6 in.; weight, 2 st. 10½ lb. Face intelligent, skin dry; hair fair, rather coarse, and not so long as that of her six-year-old sister; no suggestion of appearance of puberty; organs of thorax and abdomen apparently healthy. Urine: Acid, pale, specific gravity 1004, contains $\frac{1}{20}$ albumin, and a few granular and fatty casts are found in the centrifugalised specimen.

No polydipsia; occasional nocturnal enuresis. Mental faculties good, but slightly "backward" for her age at school. Began to talk at the age of nine months. Disposition quiet, not mischievous.

Case 2: Boy, aged 13 years. At the age of $2\frac{1}{2}$ years he was in hospital for a week with a sore throat. Since then he has had polydipsia. No other illness before or since, but his excessive thirst has been constant. He has spent about six years in various infirmaries for this condition. Family history: Father said to have had "diabetes" since childhood; died at the age of 47 years of pneumonia. He was twelve years in the Army, and was known among his comrades as the "water barrel." One brother died at the age of 7 years; he had had diabetes insipidus for five years. One sister, aged 14 years, is living and healthy. The mother is living. No history of other cases of diabetes insipidus in the family can be obtained. Condition: Thin, childish, weight 2 st. $1\frac{1}{2}$ lb.; height, 3 ft. 6 in.; thymus, thyroid and pituitary gland apparently normal; blood-pressure, 100 mm. Hg. Drinks on the average 14 pints *per diem*. Dislikes sweet things; appetite is poor. Urine: Specific gravity 1001; no albumin, no sugar, no casts; urea 0.5 per cent. Wassermann reaction negative. Carbohydrate tolerance 220 gr. sucrose. Miserable disposition.

Constriction of Arm by Amniotic Bands.—Dr. E. A. COCKAYNE.—Girl, aged $3\frac{1}{2}$ years. The confinement was a difficult one, but nothing was discovered to account for the condition of the arm. There are two other children: the first, a girl, aged 6 years, has a raised capillary nœvus on the right side of the abdomen; the third, aged 1 year 10 months, has a similar nœvus on the shoulder. The mother calls them respectively a strawberry and a raspberry, and thinks they become brighter when those fruits are in season. All three children have convergent strabismus. There is a narrow fibrous band which completely encircles the upper arm on the right side and causes slight constriction, and another which deeply constricts the arm just above the wrist; in flexion—the intra-uterine position—the two scars are at the same level. The scar-tissue is adherent to the deeper structures and the bone feels grooved, but a skiagram shows that it is not involved. The right arm and hand are well developed and larger than the left, showing that there has been no pressure on the arteries. Right upper arm $1\frac{1}{2}$ in. above elbow, $6\frac{3}{8}$ in.; left upper arm $1\frac{1}{2}$ in. above elbow, $6\frac{1}{4}$ in.; right forearm 2 in. below elbow, $5\frac{7}{8}$ in.; left forearm 2 in. below elbow, $5\frac{3}{4}$ in.

Hemiplegia with very Extensive Nœvus.—Dr. E. A. COCKAYNE.—A girl, aged 1 year 4 months. The birth was easy, but the nurse said the child was "born in convulsions." The mother attributes the condition to her having seen a cripple with a very large birth-mark when she was three months pregnant. The mother noticed the nœvus at birth, but is not sure whether the hemiplegia was present then or came on later. It was first noticed after the child had had a severe left-sided fit at the age of six weeks. She has had similar fits at intervals up to the age of one year; at eight months she had nine in two days. There has been some "shaking" of the left arm. The child appears to be quite intelligent and is beginning to talk. There is complete left hemiplegia with spasticity of the arm and leg, and the left side, including the face, is noticeably smaller than the right. The bones are seen by X rays to be shorter on the left side. There is very extensive port-wine staining of the skin of the scalp, face, arms, legs, and part of the trunk. It is fairly symmetrical and follows a posterior root distribution. The areas of

skin supplied by the first dorsal and the fourth to eleventh dorsal nerves inclusive are completely free, but almost all the rest of the body is more or less involved. Wassermann's reaction is negative.

Case of Rheumatoid Arthritis in a Boy.—Dr. J. PORTER PARKINSON.—A boy, aged 5 years, has had "growing pains" all his life, and for the last year has been treated for pains in the limbs, and has been in bed on and off since June this year. He had bronchitis at the age of two years, and measles last Christmas. The mother suffers from "rheumatism." In July, on admission to hospital, he was pale and thin, with wasted muscles. The knees, ankles, wrists and elbows were swollen and spindle-shaped, with soft, pulpy swelling. They were slightly tender on manipulation, but did not creak. No evidence of intra-articular fluid. The other joints presented nothing abnormal. Enlarged glands could be felt in the axillæ and groins, but the spleen could not be felt and showed no evidence of enlargement. Chest and abdomen *nil*. Teeth good; no evidence of gastro-intestinal derangement. Weight 2 st. 1 lb. Wassermann and von Pirquet's reactions negative. Temperature, 98° to 99° F., occasionally up to 100° F. He was treated by massage, etc., a course of arsenic internally, and, later, by rectal injections of polyvalent anti-streptococcus serum without effect. He left the hospital at the end of July, and on re-admission in October, in addition to the conditions described above, there were spindle-shaped enlargements of all the joints of the fingers and slightly of the metacarpo-phalangeal joints of both hands, and the left hip-joint had become fixed in partial flexion. He was somewhat thinner and his general condition was worse. Dr. Parkinson proposed to try a course of radium water.

Three Cases of Under-development.—Dr. T. R. WHIPHAM.—Case 1: Rickety boy, aged 2 years 3 months, the fourth child in a family of five; the others are living and said to be healthy. The patient was a full-term child and was fed at the breast for six months. He was then given cow's milk and water, but he did not thrive, and subsequently Nestlé's milk and Ridge's food were tried. He sat up at the age of 6 months, but has never walked. The first tooth was cut at the age of 2 years (?). He is said to have talked at an early age, but he speaks very seldom and indistinctly. The child is very undersized, being only 2 ft. high, which is 9 in. below the normal and less than the average for a child of 6 months. His weight is 11 lb., or 1 st. 8 lb. below the normal. Circumference of head, 17 in. (normal, 19 in.); of chest, 15 in. (normal, 19 in.); of abdomen, 17 in. The epiphyses are slightly enlarged, and there are definite signs of rickets in the chest and a marked kyphosis in the lower part of the spine. The anterior fontanelle is open, and the patient has seven teeth instead of the full complement of fourteen. The liver is not much enlarged, and the spleen cannot be felt.

Case 2: Boy, aged 8 years, of diminutive stature, but well proportioned and intellectually bright. Height, 2 ft. 9 in. (normal, 3 ft. 11 in.); weight, 1 st. 8½ lb. (normal, 3 st. 13 lb.); circumference of head, 18½ in. (normal, 20½ in.). The patient was a full-term child, and has eight brothers and sisters, five older and three younger, all of whom are of average size. He presents no signs of rickets, but suffers from tuberculosis of the skin and subcutaneous tissues. The urine is normal, and does not contain albumin. He has been treated with thyroid extract, and more recently with poly-

glandin. During the last six months he has grown 1 in. and has increased $2\frac{1}{2}$ lb. in weight.

Case 3: Girl, aged 18 years, showing signs of hypothyroidism. The patient has been noticed to be small since the age of 7 years, and now has the development of a girl aged 10, her height being 4 ft. $1\frac{1}{2}$ in. (normal for her age, 5 ft. $2\frac{1}{2}$ in.), and her weight 4 st. $10\frac{3}{4}$ lb. (normal, 8 st. 9 lb.). In early life she is said to have had "marked rickets"; the chest still shows a rosary, and the head is square. The features are somewhat coarse. Her skin has always been dry and harsh, and formerly she had definite pads in the neck. Her hair, on the other hand, has always been fine, but lately it has lost its gloss. Movements have always been slow, and the patient suffers from the cold in the winter time. There is an absence of mammary development, also of both pubic and axillary hair, and menstruation has not yet occurred. The girl has attended school, but was not quite up to the normal standard, and her memory is not good. She had no treatment until she was twelve years of age, when she was given thyroid extract for about a year. She has three sisters, all of whom are normal.

Enlargement of the Liver and Spleen associated with Jaundice.

—Dr. T. R. WHIPHAM.—The patient is a girl, aged 6 years, who was born jaundiced. The colour was "green-yellow," and the condition lasted for six weeks. Since then no jaundice has been noticed until February of this year, when the icterus again appeared suddenly. There was epistaxis, and the jaundice gradually became more marked. When the patient was first seen in May she was deeply jaundiced, being of an olive-green-yellow colour all over. The liver was greatly enlarged, reaching to the umbilicus, and the spleen was also of a considerable size, extending down to nearly the same level, but not to the middle line. The blood-count at this time showed: Red corpuscles, 4,824,000 per cubic millimetre; white cells, 15,200 per cubic millimetre; polymorphonuclears, 39 per cent.; lymphocytes, small, 53 per cent.; lymphocytes, large, 6 per cent.; eosinophiles, 2 per cent. No myelocytes nor mast-cells seen. The motions were brown or yellow in colour—not acholic; but the urine was deeply coloured and contained bile-pigment. The Wassermann reaction was negative. For over three months the child continued deeply jaundiced, and presented no further symptoms. During the last two months, however, the jaundice has gradually been getting less, and now only a faint coloration remains. The liver at the same time has decreased in size until its lower edge is $1\frac{1}{2}$ in. above the umbilicus. The spleen, on the other hand, is a trifle larger.

A recent count shows a change in the blood-picture. There are now: Red corpuscles, 2,360,000 per cubic millimetre; white cells, 38,000 per cubic millimetre; polymorphonuclears, 50 per cent.; lymphocytes, small, 28 per cent.; lymphocytes, large, 4.7 per cent.; myelocytes, 13.3 per cent.; eosinophiles, 3.7 per cent.; mast-cells, 2.2 per cent. Nucleated red corpuscles are present, and a few of the myelocytes contain eosinophile granules. Hydropic degeneration of the nucleus is frequent, especially in the myelocytes and large lymphocytes. The urine is still pigmented and contains bilirubin, but no urobilin. The child is obviously anæmic, and a hæmic bruit can be heard over the base of the heart.

There are two other children in the family, one older than the patient and one a baby, and both are healthy. There is no history of syphilis.

Congenital Insufficiency of Ocular and Facial Movements.—

Dr. LEONARD GUTHRIE.—Boy, aged 4 years, born at full time and labour

easy. Imperfect closure of the eyes was noticed at birth, and also that his face was devoid of expression. His mother states that "he has never been known to smile."

Present condition: Intelligence normal, speech somewhat defective, general nutrition and development fair. The whole of the face is motionless as far as the mouth; the skin of the face is smooth and not tightly stretched. The visage resembles in some respects the "myopathic facies." The eyes cannot be fully closed, the eyeballs are in mid-position, and the only ocular movement which can be performed is convergence, downwards and inwards. The pupils are equal, active to light, less so on accommodation. When crying, tears are shed, but no facial contortions are visible; laughter is only represented by guttural grunts. The upper lip projects slightly and is flabby; the lower lip is not everted as in myopathy. The orbicularis oris is not paralysed, for he can purse his lips and also blow out his cheeks, though feebly. The escape of the orbicularis oris is probably due to association of its action with that of the tongue, the movements of which are normal. Movements of the palate and masticatory muscles are also normal. Electrical reactions cannot be obtained in any of the facial muscles except the orbicularis oris.

The condition is regarded as an unusual form of myopathy affecting muscles supplied by the third and seventh nerves.

A Case of Cretinism.—Dr. FREDERICK LANGMEAD.—Female baby, aged 5 months. The patient is a firstborn child whose mother is aged 30 years and father aged 25 years. There is no history of thyroid disease in the family. The appearance is characteristic: the features are pale, coarse, and bloated, the eyes puffy, the lips thick and the tongue large and broad. The build is of the usual thick-set, short-necked, bloated form, the abdomen being prominent. The hands and fingers are broad. The hair is sparse and dry and top of head flat; and in the back is the lumbar cushion commonly seen. No thyroid tumour is present. The child is lethargic and takes no interest in its surroundings or its food. A particularly large umbilical hernia is present, the hernial ring admitting one's thumb with ease.

The child is shown because she exhibits two features which are characteristic of Mongolian imbecility rather than of cretinism: (1) Markedly incurved little fingers; (2) congenital morbus cordis. A definite systolic murmur can be heard to the left of the manubrium. It is not accompanied by symptoms. It is open to question whether the murmur may not be ascribed to anæmia, but the wide area over which it is heard and its intensity favour the view that the lesion is organic.

Two Sisters with Deformity of Bones and Splenomegaly.—Dr. LANGMEAD.—Case 1: Girl, aged 6 years 5 months. History: The child began to crawl at the age of five months, according to the mother, and then the legs were noticed to be crooked. She did not attempt to walk until over two years old, and could not walk alone until aged 4 years. She was entirely breast-fed for six months. From six months to nine months she was fed on milk, lime-water, barley-water, and raw meat-juice, and was taking a quart of milk daily. There has been no acute illness. The mother suffers from anæmia, the father is "delicate." A brother died of malnutrition when aged three years. The skeletal changes closely resemble those of rickets. The skull is bossed, the ribs are everted and

beaded, the epiphyses enlarged, especially at the wrists and ankles. The femora are incurved; the tibiæ are prominently bowed forward and inward, the concavity being outwards. Genu valgum is very marked. The shins are very prominent and of "plough-share" form, the anterior borders of the tibiæ being sharp and sinuous. The muscles are everywhere flabby, those of the legs being especially poorly developed. The spleen extends downwards as far as the anterior superior spine of the ilium and fills the left side of the abdomen. The liver reaches downwards for about an inch below the costal margin. Blood examination: Red blood-corpuscles, 3,960,000 (79·2 per cent.); white blood-corpuscles, 12,400; hæmoglobin, 56 per cent.; colour index, 0·7. Differential count: Polymorphonuclear cells, 66 per cent.; small lymphocytes, 9 per cent.; large lymphocytes, 17·5 per cent.; large mononuclear cells, 2 per cent.; eosinophiles, 1·5 per cent.; basophiles, 0; transitional cells, 1 per cent.; myelocytes, 0; myeloblasts, 3 per 100 leucocytes; nucleated red cells, 3 per 200 leucocytes. The red cells vary much in size and in staining properties. There is some granular degeneration of the red cells. The Wassermann reaction is negative.

Case 2: Girl, aged 5 years 4 months. The mother gives an almost precisely similar history as in the case of the elder sister. The bony changes closely resemble those in the first case, but have developed to a less degree. The spleen is also enlarged, but less so, reaching about an inch below the costal margin. The liver is palpable. Blood examination: Red blood-corpuscles, 4,610,000 (92 per cent.); white blood-corpuscles, 16,600; hæmoglobin, 70 per cent.; colour index, 0·76. Differential count: Polymorphonuclear cells, 60 per cent.; small lymphocytes, 18 per cent.; large lymphocytes, 13 per cent.; large mononuclear cells, 2 per cent.; eosinophiles, 4 per cent.; transitional cells, 2 per cent.; myelocytes, 1 per cent.; nucleated red cells, 2 per 100 leucocytes. The red cells vary much in size. The Wassermann reaction is negative.

The points of interest in the cases are:

(1) The diagnosis: the skeletal changes are such as occur in rickets, but they appear to be progressive, for the younger child shows less marked changes of a precisely similar form—such, according to the mother, as the elder child showed at the same age.

(2) The splenomegaly: marked in the more deformed child, less so in the younger one. Rickets alone is not generally acknowledged to cause splenic enlargement. Even if rickets be held to be the cause, why is the enlargement progressive, seeing that the usual period for active rickets is over?

Radiograms are shown of both cases. The epiphyses appear to be characteristic of rickets. The thickening of the compact bone at the bends and the irregularity of the outline of the medullary canals of the long bones is perhaps unusual. Apart from the splenomegaly the cases appear to correspond to those of a form of dwarfism described by Hutinel, Tixier and Roederer.

Case of (?) Cerebellar Encephalitis.—DR. E. BELLINGHAM SMITH.—Boy, aged 8 years, was admitted into the Queen's Hospital for Children on July the 26th, 1913, as a case of cerebro-spinal meningitis. The history states that on July the 25th the boy was suddenly taken ill with headache, vomiting and pains all over the body. On admission on the following day the boy was drowsy, the face was flushed, there was distinct rigidity of the neck muscles and some retraction of the head. The abdomen was retracted, all the reflexes were exaggerated, and the plantar reflexes were extensor in

character. Kernig's sign and ankle-clonus were well marked. The temperature was 103° F., and the pulse varied from 68 to 88. Lumbar puncture, performed the day after admission, revealed a turbid fluid, not under pressure, containing 0.075 per cent. albumin; globulin, a small precipitate. Glucose present, and a great number of polynuclear cells and large lymphocytes. No organisms were seen and the cultures were sterile.

On July the 29th his condition was unchanged except that plantar reflexes were flexor and the heart very irregular.

On August the 8th there was some commencing optic neuritis, and the head-retraction had disappeared. Temperature was still raised and the pulse rapid and regular.

On August the 17th the child was still rather drowsy, and condition still unaltered. Blood-count and blood-cultures were respectively normal and sterile. Widal was negative.

On August the 19th the child could answer questions and complained of headache.

On August the 21st the optic neuritis was well marked.

On September the 4th lumbar puncture gave a turbid fluid: albumin, 0.35 per cent.; globulin, thick precipitate; glucose absent. In the films a moderate number of polynuclear leucocytes. Culture sterile.

On September the 9th the temperature was still raised; the child was very wasted, and complained very much of headache, but his condition permitted of a more thorough examination. The reflexes were exceedingly brisk throughout, and equal on both sides of the body. Plantar reflex, flexor; ankle-clonus well marked. There was no paresis of limbs, but on getting him to move his arms or legs there was some ataxia. This inco-ordination was equally marked on both sides of body. There was no facial or eye paralysis and no nystagmus, and no alteration in sensation. Hearing was indifferent on both sides, but the right hearing was distinctly more imperfect than the left. Optic neuritis present and more marked on the right than on the left. On getting the child to sit up, he did so with difficulty and a swaying movement; on being stretched his head assumed an attitude with face turned upwards and to the left and right ear down to right shoulder.

September the 10th: Patient was given phenazone bromide and liq. trinitrine for headaches, which were very severe, but with no improvement. General condition getting steadily worse.

On September the 15th pot. iodide in 5-gr. doses was given *t.i.d.*, and on September the 20th the temperature, which had hitherto been continuously raised, suddenly became normal. Similarly, his headaches, after a slight attack on September the 18th, were no longer complained of.

On October the 3rd he could walk, but with a tendency to lurch to the right. There was slight ankle-clonus to be obtained on the left side, otherwise reflexes were normal.

On October the 9th the optic neuritis was less marked, the child could run about the ward and seemed quite well, and is now rapidly gaining weight.

The interesting feature in this case is the almost immediate relief of all symptoms shortly after the administration of iodides.

Case of Infantile Paralysis of Early Onset, with Unusual Deformities. —Dr. F. BELLINGHAM SMITH.—Male, aged 1½ years, brought to the Queen's Hospital for Children on September the 3rd for paralysis of

both legs and left arm. The mother states that the child was quite well until two months old, when he was vaccinated. A few days later the child seemed very unwell and was unable to move the left arm or either leg. Ten days later the child was taken to the Evelina Hospital. He has since been to other hospitals, but the condition has not improved.

The child is fairly well nourished but is quite unable to sit up, and usually lies with both legs flexed at knee and markedly abducted at the hip-joint, so that the thighs lie at right angles to the pelvis. The left leg can be readily brought down into a direct line with the trunk, but the right is incapable of complete inward rotation and adduction. The knee-jerks are absent on both sides. The plantar reflex is absent on the left and extensor (infantile type) on the right. The abdominal reflexes are sluggish on the right, absent on the left. The paralysis of the muscles of the left lower limb appears to be fairly general throughout. In the right leg the affection appears limited to the adductors and extensors in thigh and most of the muscles in the leg. Electrically the muscles of the right leg are said to react normally, while those on the left side show a marked diminution to both galvanism and faradism with A.C.C. > K.C.C. In the left upper extremity there is some wasting of the biceps and triceps group and a diminution in response to both faradism and galvanism.

X-ray plates of the limbs of this child show a dislocation or subluxation of the left hip-joint, not congenital in origin, an old green-stick fracture of the lower end of the left femur, and a curious swelling of the shaft of right femur, just below the great trochanter. Throughout the limbs a tendency for most of the bones to show a cystic structure.

The following specimens were shown :

Neoplasm of Sigmoid Flexure.—Dr. J. PORTER PARKINSON.—The specimen comes from a boy, aged 5 years, who was healthy till whooping-cough four months ago. One brother and the maternal grandfather died of consumption. In the middle of June he began to complain of abdominal pain and tenderness, coming on in attacks and lasting two to three days, accompanied by slight diarrhœa.

He was admitted to hospital on July the 17th, and was then healthy looking and well nourished. The abdomen was slightly prominent and tender on palpation. No evidence of fluid. In the right lumbar iliac region was a moderately distinct mass the size of an orange and rounded, very movable, and tender on palpation. Percussion note over it was slightly impaired. Nothing else abnormal could be made out in the abdomen or elsewhere. The stools were normal. Temperature slightly raised, as a rule to 99·6° F., but occasionally rising to 101° without obvious reason; on September the 10th the temperature rose to 104° and the child was obviously worse, the abdomen more tender and distended with flatus. The temperature then rose daily to 103°, and on September the 29th, after several motions containing large quantities of blood, the child died. During the two months in hospital the child lost 3 lb. in weight.

At the necropsy the abdominal lump was found to be a distended sigmoid colon lying in the right iliac fossa and adherent to the adjacent small intestine. The walls of the sigmoid were much thickened with hard, whitish growth, the inner surface being ulcerated and no trace of mucous membrane visible. The walls measured about $\frac{1}{2}$ in. in thickness. The external surface was smooth. There was no constriction of the gut. All the other organs were

normal. A microscopical section of the wall of the sigmoid shows largish, rounded and tailed cells packed in the meshes of fibrous tissue alveoli. In some parts this is replaced by a granular, structureless, apparently colloid substance taking the stain badly. Dr. Parkinson regarded it as a carcinoma.

Diphtheria of Trachea and Bronchi.—Dr. J. D. ROLLESTON.—Girl, aged 5 years, was admitted to hospital on June the 20th, 1913, with severe faucial and laryngeal diphtheria on fourth day of disease. Tracheotomy performed on admission. Some relief followed operation, but the tube remained dry. The respirations were between 48 and 62, and pulse between 130 and 150; temperature, 102° to 101° F. There were numerous small stools. Death took place somewhat suddenly on June the 22nd.

Specimen shows membrane closely adherent to the posterior surface of the epiglottis and interior of the larynx, from the lower end of which a thick continuous tubular cast extends to the bifurcation of the trachea and passes into each of the bronchi.

Skiagram of a Case of Anomalous Development.—Dr. F. G. CROOKSHANK.—A female infant was born on August the 17th, 1913, of healthy parents who have had previous offspring free from all congenital defect. The lower part of the dorsal spine was protuberant, and it was thought that a spina bifida was present. The infant was seen by Dr. Crookshank when a fortnight old, and it was then obvious that there was a grave defect of what should have been the spinal column in the lumbar region. The lower limbs were small, immobile, and presented webbing between the thigh and the calf. A skiagram showed absence of the lumbar vertebræ, and a very imperfect condition of the pelvis. The infant was admitted into the Belgrave Hospital, where she died on October the 1st, 1913. The legs had not grown since birth, although the rest of the body was in fair proportion.

At the post-mortem examination it was found that the spinal column terminated at the twelfth dorsal vertebra in a bony boss of small size. The spinal canal was completely closed. There were twelve pairs of dorsal nerves but no lumbar nerves at all; and the legs were, seemingly, not innervated. A very rudimentary sacrum and coccyx were present, though the only trace of a lumbar spine was represented by the continuity between thorax and pelvis of a fibrous band apparently indicating the anterior vertebral ligament. No other abnormality was found.

It is beyond dispute that the child's mother had been, for several months before and after conception, in close daily association with a little boy, paralysed as the result of Pott's disease, who died when the mother was four months pregnant. She and this little boy are stated to have been greatly attached to each other.

Some references to cases of anomaly of the vertebral column may be found in the '*Revue d'Orthopédie*,' July the 1st, 1912, and '*La Presse médicale*' for October the 5th, 1912.

Extra-pleural Lipoma from a Child, aged 6 years.—Mr. DUNCAN C. L. FITZWILLIAMS.—This child was shown to the Section on January the 24th, 1913, as a case of lymphangioma, resembling a hernia of the lung. The general opinion expressed at the meeting was that the condition was a true hernia of the lung. A truss was devised, which the child wore for some months. The swelling gradually became larger, and in September the child was operated upon and the lump exposed. It proved to be a pure lipoma

with very little fibrous tissue. The portion in the neck communicated by a narrow neck growing down behind the subclavian artery with a much larger portion which lay within the thorax outside the parietal pleura. The tumour was extremely soft, practically fluid oil at the body; temperature and coughing easily impelled most of the intra-thoracic portion into the neck. The tumour was removed whole.

Philadelphia Pediatric Society.

October the 14th, 1913, THEODORE LE BOUTILLIER, M.D., President.

Child with Cerebellar Gait.—Dr. WILLIAM DRAYTON, jun., showed this girl, aged 5 years, of Russian-Jewish parents, who came to the Orthopædic Hospital on July the 30th for marked difficulty in walking. She had a fall in February, 1912, but was not seriously injured. Two days later she had complained of headache and pain at the back of the knees, was chilly and had a little fever, but seemed well next day. Since this time her hands "shook" and she has dropped things. Then she began to stagger and fall. Her pain in the legs is worse in damp weather. Examination shows only that her right arm is weaker than her left; doubtful ataxia of arms; staggering, ataxic gait. Wassermann reaction negative August the 3rd and October the 2nd, 1913. Upon mercurial inunctions and sodium iodide for a month, she has gained 5 lb. and is able to walk alone. Her gait has become somewhat spastic now. Dr. Drayton considers that she has either cerebellar syphilis or a cerebellar cyst, resulting from the fall.

The parents and four other children were living and well. No Wassermann reaction had been attempted in the father.

Conference of the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy.—Dr. J. TORRANCE RUGH gave some impressions of this Conference. He said that delegates were present from the British Isles, Canada, United States, Australia, New Zealand, and India. Meetings were well attended and were marked by an unusual degree of enthusiasm. The geographical distribution of the papers and the reports of work done and in contemplation indicated that Great Britain is not so far advanced in this work as are other English-speaking countries, and was seeking light from the experiences of the others. The inaugural address of John Burns, M.P., was a masterful plea for the education of the growing girl in matters pertaining to motherhood, in the preparation for motherhood and in the care of the child. He also pleaded for public interest in child welfare, and paid his respects in strong terms to those "misguided women who thought more of politics and pups than of homes and healthy heirs." Papers were read before an administrative and a medical section in the form of symposia. The subjects of the symposia in the former section were "The Responsibility of Central and Social Authorities in the Matter of Infant and Child Hygiene," and "The Administrative Control of the Milk Supply." In the Medical Section were considered "The Necessity for Special Education in Infant Hygiene," "Medical Milk Problems," and "Antenatal Hygiene." All the papers

were terse, forceful and practical. The papers by Dr. F. Truby King on "The New Zealand Scheme for Promoting the Health of Women and Children," by Dr. Caroline Hodger on "The Relation of the Education of the Girl to Infant Mortality," and by Miss Gregory on "The Improved Training of Midwives as Influencing Infant Mortality," were especially good. That by Dr. Hodger, of Chicago, was one of the most practical presented and elicited extensive discussion as well as merited commendation. Because of the lack of supervision of the milk supply, many English pædiatrists use dry milks; papers by Drs. Eric Pritchard and A. E. Naish strongly advocated milk powder as economic, sterile and efficient. That prepared by the Bévenot-de-Neveu method was considered best. Dr. Frederick Langmead recorded successful results from citrated whole milk. In his excellent paper upon "Congenital Syphilis as a Cause of Infant Mortality and the Preventive Measures Necessary," Dr. F. W. Mott laid stress upon the control of communicable diseases by reporting to the Board of Health. He advocated salvarsan and neo-salvarsan as the best remedies. There is no doubt of the value of such a conference, and it is to be regretted that the difficulty of language prevents the participation of France and Germany, since their work in this field would doubtless add much more to our working knowledge of these great problems, of such profound interest to nations and countries.

Société de Pédiatrie, Paris.

October the 14th, 1913. (Bulletin No. 8.)

Transitory Severe Uræmia in the Course of Acute Nephritis.—MM. NOBÉCOURT, MILHIT and BIDOT reported the case of a girl, aged $7\frac{1}{2}$ years, who did not completely recover from a second attack of nephritis, the urine after two months being still albuminous and containing blood. The interest of the case lay in the severe uræmia—the amount of urea rising on the seventh day to 4.57 gr. per litre in the cerebro-spinal fluid, and on the eighth day to 6.17 gr. in the blood-serum.

Craniectomy in Cerebral Tumour.—MM. GUINON, DE MARTEL and RIPART showed a girl who at the age of 12 years was seized with disturbances of vision—dilated pupils and partial blindness. Recovery ensued after craniectomy in the right subtemporal region.

Symmetrical Plantar Lipomata.—MM. VARIOT and L. MONOD showed a case aged 18 months.

Epididymitis and Old Hemiplegia.—M. MALARTE showed a boy, aged $6\frac{1}{2}$ years, with old hemiplegic and muscular atrophy. The right testicle was enlarged and lobulated, the epididymis forming a separate mass. It was hard and insensitive. Wassermann negative. Diagnosis: poliomyelitis and tubercle.

Abnormal Symptoms of Appendicitis in an Infant of two years.—Mme. NAGEOTTE-WILBOUCHEWITCH showed a girl of 2 years operated on

after irregular attacks of pain lasting for a period of ten days. The appendix was normal except for the presence of a small foreign body.

MM. GUINON and SAVARIAUD thought the symptoms due to neurasthenia.

Congenital Hydronephrosis.—M. L. D'ASTROS reported a case in a boy, aged 7 years, which was interesting on account of the large size of the pelvis, which contained about nine litres. The ureter was of normal calibre.

Retention of Urine in Acute Infantile Paralysis.—MM. SCHREIBER and D'ALLAINES reported the case of a boy, aged $9\frac{1}{2}$ months, who had, in addition to this symptom, hyperæsthesia, profuse sweating, constipation and flaccid paralysis.

Radiography and Radiotherapy in Mediastinal Adenopathy.—MM. RIBADEAU-DUMAS and ALBERT-WEIL reported the case of a child, aged 5 months, brought to the hospital on account of attacks of dyspnoea. After six applications of X rays, lasting on an average ten minutes, the child was discharged cured.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

Diphtheria in the Metropolitan Asylums Board Hospitals (*M. A. B. Rep.*, 1912).—4844 cases were admitted in 1912 as compared with 5034 during 1911 (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1913, x, p. 28). Exclusive of purely bacteriological cases the percentage mortality was 6·8, the lowest on record, and 2·6 below the average rate for the past ten years. Diphtheria is usually more fatal to males than females, but in 1912 out of 19 females under one year 12 died, a percentage of 63·2, whereas out of 38 males of the same age 11 died—a percentage of 28·9. The total percentage mortality for males was 7·1, and for females 6·8. On 234 cases tracheotomy, on 45 intubation, and on 27 both operations were performed, among whom there were 53, 3, and 11 deaths respectively. The percentage error in cases admitted was 12·9. Among the 775 wrongly certified as diphtheria were 464 of tonsillitis, 43 of Vincent's angina, 96 of laryngitis, and 14 of broncho-pneumonia. Twenty-eight had no obvious disease or were not diagnosed. Paralysis occurred in 9·38 per cent., albuminuria in 24·4 per cent., otitis in 4·6 per cent., serum rashes in 30·19 per cent., joint pains in 3·9 per cent., and abscesses at the injection site in 0·76 per cent. 184, or 3·57 per cent., contracted scarlet fever; 54, or 1·05 per cent., chickenpox; and 44, or ·85 per cent., measles.

J. D. ROLLESTON.

Diphtheritic hemiplegia (*Zeitschr. f. Kinderheilk.*, 1913, VIII, p. 88).—W. H. Leede records four cases which occurred among 6300 diphtheria admissions to the Hamburg-Eppendorf Hospital between October, 1909, and January, 1913. Two occurred in men, aged 24 and 18 years respectively, and the following in children: (1) Girl, aged 8 years. Left hemiplegia on twenty-fifth day; cardiac dilatation, enlargement of liver, and albuminuria. Recovery with spastic paresis and athetosis. (2) Boy, aged 3 years. Right

hemiplegia with aphasia on twenty-third day. Death from bronchopneumonia on forty-sixth day. Necropsy showed softening of left corpus striatum, optic thalamus, and subthalamic region. The paper contains a review of sixty-three cases from the literature.

J. D. ROLLESTON.

Scarlet fever in the Metropolitan Asylums Board Hospitals ('*M.A.B. Rep.*,' 1912).—9883 cases were admitted in 1912 as compared with 8818 in 1911 (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1913, x, p. 30).—The mortality was 1·5 per cent. The percentage error of diagnosis was 6·4. Among the 672 wrongly certified as scarlet fever were 34 of German measles, 25 of chickenpox, 143 of tonsillitis, and 169 of erythema. 104 had no obvious disease or were not diagnosed. The commonest complications were otitis (9·22 per cent.), albuminuria (6·8 per cent.), secondary adenitis (4·28 per cent.), nephritis (2·7 per cent.), and rheumatism (2·33 per cent.). 307, or 3·07 per cent., had relapses; 131, or 1·33 per cent., contracted diphtheria; 197, or 2·01, chickenpox; and 98, or 1·0 per cent., measles.

J. D. ROLLESTON.

Attempts to infect monkeys with scarlet fever ('*Prag. med. Woch.*,' 1913, xxxviii, p. 233).—**Schleissner** has tried vaccinating twenty-two monkeys with 24-hour cultures of scarlatinal streptococcus. The bouillon culture was sprayed into the nostrils and on to the tonsils. There were nine positive results; fever, sore throat and rash followed, four weeks later, by desquamation of the palms and soles. If the results are confirmed he says it must be recognised that scarlatinal streptococcus is the causal agent in scarlet fever.

M. D. EDER.

Value of the so-called inclusion-bodies in scarlet fever ('*Arch. of Ped.*,' 1913, xxx, p. 346).—**M. Nicoll, jun.**, has examined about 400 cases of scarlet fever usually during the acute stage, and comes to the following conclusions: The finding of typical inclusion-bodies in a case resembling scarlet fever before the fourth day may mean scarlet fever, sepsis, or severe streptococcal angina. Negative findings practically exclude scarlet fever. In diphtheria treated with antitoxin, positive findings before the seventh day are not diagnostic of scarlet fever. After that time a positive result in the case of a scarlatiniform rash is very suggestive of scarlet fever.

J. D. ROLLESTON.

Does a familial disposition for scarlet fever and its complications exist? ('*Jahrb. f. Kinderheilk.*,' 1913, LXXVIII, *Erg.-Heft.*, p. 116).—**A. Mathies** comes to the following conclusions as the result of his study of 3000 cases of scarlet fever, which included 215 scarlet fever families with 519 members: (1) A familial disposition for scarlet fever does not exist. (2) The fact of belonging to a given family does not determine a similar course of the disease in the members of that family. (3) As regards the streptococcal complications of scarlet fever (adenitis and otitis media) an accumulation of cases in the family may be found, but not a familial disposition. (4) As regards the complications due to the primary agent of scarlet fever (unexplained fever, joint and heart affections, and nephritis) a familial disposition exists. (5) There is also a familial disposition for relapses in scarlet fever both in their fully developed form and in their rudimentary form as angina.

J. D. ROLLESTON.

Prodromal urticarial rash of scarlet fever and measles in the same child (*Arch. de méd. des enf.*, 1913, xvi, p. 447).—**P. Galli** regards accidental rashes in measles, varicella, and scarlet fever as due to a toxic cause associated with a special condition of the subject innate or acquired. According to him the individual factor plays the most important part in their genesis. A boy, aged 4 years, developed a general urticarial rash. Thirty-six hours later it began to fade, but the temperature rose, and on the third day the characteristic eruption and angina of scarlet fever occurred. The disease then ran its course in the ordinary way. Three years later the boy had another generalised eruption of urticaria. The next day the rash faded and the catarrhal signs of measles appeared followed by the typical eruption.

J. D. ROLLESTON.

The relation of the diet to the course, blood findings and nephritis in scarlet fever (*Monatsschr. f. Kinderheilk.*, 1913, xii, p. 121).—**J. R. Gerstley**.—Of 306 cases of scarlet fever, one half were kept on a milk diet and the other on an ordinary full diet. Forty cases of nephritis developed, of which 21 occurred among those on the milk diet and 19 in those on full diet. Gerstley's results thus agree with those of Pospischill and Weiss (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, viii, p. 240), who found that scarlatinal nephritis did not depend upon the character of the diet. Like them, too, he found that the children on meat diet appeared in much better health than those on milk diet. Meat diet appeared to have a good influence upon the blood, especially as regards the number of the red corpuscles.

J. D. ROLLESTON.

Scarlet fever without eruption or desquamation (*Norsk Mag. f. Lægevid.*, 1913, lxxiv, p. 1076).—**O. Lorange** records a case in a girl, aged 15 years, in whom the diagnosis of scarlet fever was based on the initial symptoms, fever, characteristic tongue, throat and enlarged glands, and the simultaneous occurrence of four other cases of undoubted scarlet fever in the same family. The diagnosis was strengthened by her spending seven weeks in a scarlet fever ward without becoming infected.

J. D. ROLLESTON.

Return cases of scarlet fever (*Arch. of Ped.*, 1913, xxx, p. 360).—**L. A. Sexton**.—During the last sixteen years there have been sixteen return cases traceable to some member of the family that has been discharged from the scarlet fever hospital. In every case the discharged patient was found to have rhinorrhœa. In only two cases was desquamation present, in both of a slight character and confined to the soles. In two cases a virulent and fatal type of the disease was contracted from a correspondingly mild case.

J. D. ROLLESTON.

Return cases of scarlatina (*Dub. Journ. Med. Sci.*, 1913, i, p. 329).—**J. M. Day** discusses the vexed question of return cases of scarlatina, and gives the procedure adopted by him. No attention is paid to peeling, but the condition of the nose, throat and ears is relied on. As long as there is any redness of the throat, or nasal discharge, a child is not safe to be discharged. If the tonsils be enlarged they are removed, and, if the parents object, the responsibility of guaranteeing freedom from infection is declined. On discharge, the child should be isolated for a week from other children, and, if this cannot be carried out, the child is placed in a separate non-

infectious ward for that period. As regards otorrhoea, which may become chronic, the children are detained in hospital at least two months, during which time careful antiseptic treatment is carried out. In cases which do not cease within that time, the children are kept in hospital longer if the parents will permit, and at the same time they are removed out of the infectious wards.

J. ALLAN.

Measles in the Metropolitan Asylums Board hospitals ('*M. A. B. Rep.*,' 1912).—4314 cases were admitted in 1912 as compared with 1537 in 1911, which was the first year in which measles was admissible to these hospitals (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1913, x, p. 32). The mortality was 10·45 per cent. Among 135 wrongly certified were 26 of German measles, 30 of erythema, and 19 with no obvious disease. The commonest complications were broncho-pneumonia (14·25 per cent.), otitis (11·05 per cent.), conjunctivitis (3·13 per cent.), enteritis (2·59 per cent.), and abscesses (2·07 per cent.). Ninety-one cases (2·41 per cent.) contracted whooping-cough, 69 (1·83 per cent.) scarlet fever, and 67 (1·77 per cent.) diphtheria.

J. D. ROLLESTON.

Analysis of a thousand cases of epidemic measles ('*Am. Journ. Dis. Child.*,' 1913, vi, p. 122).—C. U. Craster.—The cases occurred among emigrant children treated at the Hoffmann Island Isolation Hospital during nine months of 1910–11. The greatest number (196) occurred in June. The third year age-period showed the greatest incidence (195). The largest complication percentage (81·3) and case mortality (34·3) were found in the first year. The seasonal prevalence of complications was highest in December (78·6 per cent.), and of case mortality in January (25·2 per cent.). The most frequent complication was otitis media (495). The most common cause of death was broncho-pneumonia and enteritis—23·3 per cent. of total deaths. The average duration of the fever was four days.

J. D. ROLLESTON.

Chickenpox during intra-uterine life ('*Brit. Med. Journ.*,' 1913, i, p. 1054).—F. C. Pridham reports a case of varicella in a newborn infant. There had been chickenpox in the house within a fortnight of the birth of the infant.

J. ALLAN.

Cutaneous complications of varicella before and after the use of sterilised linen ('*Thèses de Lyon*,' 1911–12, No. 46).—M. Caplan found that the use of sterilised linen diminished very considerably the occurrence of skin complication in varicella. Before the adoption of this method thirteen out of twenty-four cases of varicella developed skin complications, whereas after its employment only four out of twenty-four were similarly affected.

J. D. ROLLESTON.

Whooping-cough in the Metropolitan Asylums Board Hospitals ('*M. A. B. Rep.*,' 1912).—1731 cases were admitted in 1912 as compared with 570 in 1911, which was the first year in which whooping-cough was admissible to these hospitals (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1913, x, p. 34). The mortality was 8·47 per cent. Among 101 wrongly certified as whooping-cough were 36 cases of bronchitis, 11 of broncho-pneumonia, and 20 with no obvious disease. The commonest complications were broncho-pneumonia (10·43 per cent.), otitis (6·42 per

cent.), stomatitis (2.54 per cent.), convulsions (2.48 per cent.), and albuminuria (2.42 per cent.). Forty-eight cases (2.70 per cent.) contracted scarlet fever, 83 (4.67 per cent.) chickenpox, and 63 (3.55 per cent.) measles.

J. D. ROLLESTON.

The ætiology of pertussis (*Riv. di Clin. Pediat.*, 1913, XI, p. 481).—**P. Porcelli** has made extensive experiments with regard to Bordet and Gengou's bacillus, morphologically, by cultures, agglutination tests, fixation of complement and by experimental injection of animals. He found this bacillus constantly present in the sputum of twenty cases of pertussis examined, in a pure state in the early stages. It was absent in the sputum of all other cases. Out of sixteen cases he obtained marked agglutination up to dilution of $\frac{1}{150}$ — $\frac{1}{200}$ in fifteen, while in fifteen fixation of the complement gave positive results. In guinea-pigs, white mice and rabbits injected he produced changes in the organs. As the result of his researches he considers that the relation between Bordet and Gengou's bacillus and pertussis is sufficiently established.

VINCENT DICKINSON.

Late complications of whooping-cough (*Gaz. des Hôp.*, 1913, LXXXVI, p. 983).—**C. Leclerc**.—There is a general belief that whooping-cough is a benign malady terminating in complete cure, but the author classifies the possible sequelæ as follows: (1) Infective: coryza, laryngitis, bronchitis, broncho-pneumonia, tuberculosis of lungs and bronchial glands. (2) Nervous: asthma, nervous cough. (3) Mechanical: dilatation of bronchi, and pulmonary emphysema. The avoidance of such sequelæ should be obtained by great care in the treatment in the later stages of the disease, and during convalescence the author strongly recommends the waters of Mont-Dore as specially suitable.

J. PORTER PARKINSON.

Hemiplegia in whooping-cough (*Birmingham Med. Rev.*, 1912, XIX, p. 295).—**J. E. H. Sawyer** showed a boy, aged 4 years, at the Midland Medical Society suffering from right hemiplegia, which had come on suddenly with loss of consciousness during an attack of whooping-cough one year ago. The face, arm, and leg were involved. The speech had been affected, but was now normal. There were slow athetoid movements of the hands, suggesting that the condition was due to meningeal hæmorrhage.

J. D. ROLLESTON.

A rare complication of typhoid fever in a child (*Monatsschr. f. Kinderheilk.*, 1913, XII, p. 117).—**S. Samelson** records a fatal case of unrecognised and therefore untreated typhoid fever in a boy, aged 2 years. A few days before death signs of laryngeal obstruction arose, and required tracheotomy. Post mortem, in addition to broncho-pneumonia ulcerative laryngitis was found, a portion of both arytenoids being destroyed. Though typhoid ulceration is relatively frequent in adults, varying from 5 to 20 per cent. in various epidemics, in children it is extremely rare.

J. D. ROLLESTON.

The cuti-reaction to tuberculin in acute infections (*Gaz. d. hôp.*, 1913, LXXXVI, p. 1789).—**A. Sézary**.—Previous observers had found that in severe acute infections the cuti-reaction frequently became negative, though it might have been positive before the attack and might become so again in convalescence (*vide BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1912, IX, p. 321). Sézary noted the disappearance of the reaction in typhoid fever, pneumonia, and broncho-pneumonia, and its reappearance in convalescence.

He attributes the disappearance of the reaction to defective sensibility of the skin, doubtless due to functional disturbances of the nervous system. The same applies to the skin of old persons, in whom the cuti-reaction was found to be almost always negative. This hypothesis does not, however, hold good in regard to measles, which even in its mildest forms prevents the reaction appearing, but it would appear that in this disease the anti-bodies are absorbed or neutralised.

J. D. ROLLESTON.

Dermatology and Syphilis.

Mongolian blue sacral patches (*'La Medicina de los Niños,'* 1913, xiv, p. 98).—**Diestro** has, in a few months, collected five instances in Spain of blue patches on the sacral region in Spanish children. In none of the children were there any other signs of Mongolism. One had hereditary syphilis; the others were quite healthy. He believes that a diligent search would show the anomaly to be pretty wide-spread and frequent in Spain. Four of the children were dark or chestnut; one was red-haired. **Bruch** (*'Arch. de Méd. des Enf.,'* 1912, xv, p. 446) has stated that these spots never occur in red-haired children.

M. D. EDER.

Erythema scarlatinoides (*'Journ. Amer. Med. Assoc.,'* 1913, lxi, p. 413).—**L. J. Menville** records the case of a girl, aged 10 years, who, when three months old, was noticed to have a red rash covering the whole body, except the face, the tongue also being red. In a day or two there was a general desquamation with itching. A diagnosis of scarlet fever was made. The patient has had a yearly recurrence of the condition, which shows itself in the later part of the spring. When seen by the writer the body was covered with a red rash (resembling scarlet fever) from the neck down to the toes, the face being exempt. There was an intense itching. Twenty-four hours later there was a general desquamation, beginning on the chest, where the rash always makes its first appearance. The tongue was red, but the throat normal. Temperature 100° F., with headache and a chilly feeling. Urine normal. Blood examination normal. The constitutional symptoms are said to be becoming more severe each year. The patient has never had drug erythema.

T. R. WHIPHAM.

Erythrodermia desquamativa (*'Gazz. di med. chir., etc.,'* 1913, p. 673).—**V. Fragale** describes two cases in breast-fed infants, aged 2 months. One recovered, the other died. The condition, which was first described by C. Leiner in the *BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1908, v, p. 244, is produced by intestinal toxins eliminated by the skin, the cutaneous lesions being aggravated by changes in the glands of internal secretion, especially the thyroid, suprarenals and hypophysis. Various degrees of severity may be met with. The lesions may be very superficial and limited to a few parts of the body, as in Fragale's first case, or be deep and disseminated with marked histological lesions of the dermis, as in his second case. Erythrodermia differs from the dermatitis exfoliativa described by Ritter as follows: (1) There is no seborrhœa or fine-scaled desquamation in Ritter's disease. (2) The layers subjacent to those desquamated are not moist and reddened, and vesicles and exudation are absent in erythrodermia. (3) The prognosis is good in Leiner's disease, and almost always fatal in Ritter's. (4) The histological changes in erythrodermia are only a small-celled infiltration of the various layers, keratinisation, dilatation of the vessels of the dermal papillæ, and leucocytic infiltration of the vessels. In

Ritter's disease, on the other hand, there is degeneration and necrosis of the cells of the various layers of the cutis. Differentiation from eczema, impetigo, and pemphigus is easily made.

J. D. ROLLESTON.

Dermatitis gangrænosa infantum ('*Brit. Journ. Derm.*,' 1913, xxv, p. 227).—A. H. H. Howard records a fatal case in a twin girl, aged 10 months, the subject of rickets, and living in bad hygienic surroundings. She had recently had measles when she developed chickenpox. Gangrenous areas developed on the cheek, neck, thighs, and buttocks. The temperature was 104° F., and there were marked wasting and offensive diarrhœa. No bacteriological examination was made.

J. D. ROLLESTON.

Infantile eczema ('*Semana Medica*,' 1912, xix, p. 1360).—Variot treats eczema in nursing infants by changing the milk. It suffices sometimes to give the infant "fresh aseptic milk" alternately with the breast. In other cases he believes that the mothers' milk is almost toxic and must be abandoned. "Chemical analysis is unable to record the cause of these extraordinary perturbations." He believes that changing the milk is much less dangerous than the use of certain local applications.

M. D. EDER.

Purpura, urticaria and angio-neurotic œdema of the hands and feet in a nursing baby ('*Journ. Amer. Med. Assoc.*,' 1913, lxi, p. 18).—

I. M. Snow reports the case of a male infant, aged 6 months, who was strong and fat and was nursed by a healthy mother. One day a dark, brawny swelling appeared, first in the left foot and then in the right foot. The child seemed ill and cried from pain in his feet. A few hours later a dark red œdema involved the scrotum, and an erythema developed on the thighs and buttocks. The baby was given two doses of castor oil, 15 c.c. each, also an enema, which caused a normal stool. On the second day, in addition to the œdema of the feet and genitals both eyes were closed by an effusion into the lids. The child was in continual misery from the tender ankles and refused to nurse. Fifteen c.c. of castor oil produced three light-coloured stools containing mucus and a minute reddish flake, possibly blood. On the third day the rectal temperature was 100·5° F.; abdomen, heart and lungs normal. The puffiness in the eyelids had lessened. Both ears were swollen with a dark red erythema. There was an ecchymosis the size of a half dollar in each cheek. The scrotum was almost of a normal size and colour. On the back, buttocks and posterior portion of the thigh were numerous dark infiltrated hæmorrhagic areas the size of a quarter of a dollar. Both legs were thickly sprinkled with large red papules about 3 mm. in diameter: these evidently itched. Both feet and ankles were greatly swollen and very painful. Here the skin was of a normal colour. No abdominal pain or tenderness could be elicited. The urine was scanty and could not be procured. On the fourth day the baby refused the breast, and was in great distress unless quieted with heroin. The œdema in the eyelids and ears was hardly noticeable. As a result of a pin-scratch a broad, dark ecchymosis 7·5 cm. by 0·5 cm. had appeared on the anterior surface of the right thigh. The purpura of the cheeks, back, buttocks and thighs was unchanged. More papules had developed on the legs. Feet and ankles showed no change. Both hands had commenced to swell, the right first. On the fifth day the baby was asleep from heroin. The most prominent symptom was an enormous swelling of both hands and wrists, which had increased so rapidly that the wristbands of the sleeves had to be cut off,

leaving a livid constriction in the flesh. All joints in the fingers, hands and wrists were freely movable, but manipulation seemed very distressing. The swelling of the right hand was hard and dark; the colour did not change on pressure. In the left hand the œdema was equally firm but of a lighter red, which disappeared on pressure. Both legs were covered with urticarial wheals, some of which quickly became hæmorrhagic. Mixed with the wheals, but fewer in number, were small petechiæ. On the seventh day the brawny swelling of the hands, which had lasted two days, disappeared. There was no pain in moving either hands or feet. The purpura of the cheeks, back and buttocks was fading; there were new hæmorrhagic papules on the legs. The baby was obstinately constipated, probably from opium. It would nurse only after the bowels had moved; there were four laxative stools, large and foul-smelling; there was no blood in them. On the tenth day the baby was very comfortable, sleeping and nursing well; defæcation and urination in order. The only relics of the illness were faint stains on the site of the old hæmorrhages and a fine papular skin infiltration on the legs. The child's general condition has remained good, and there has been no recurrence of the skin lesions. This illness ran its course without fever; no urinary or blood examination could be made. It is practically certain that no serious hæmorrhagic nephritis was present, as the diapers were not stained by the urine. The writer is unable to suggest any explanation of the child's illness.

T. R. WHIPHAM.

Papulo-necrotic tuberculides in infants (*Am. Journ. Dis. Child.*, 1913, v, p. 447).—**B. M. Wronker** describes nine cases in which the diagnosis was first made of infantile tuberculosis by finding papulo-necrotic tuberculides. He considers these lesions are absolutely characteristic and are of extreme diagnostic importance. The majority of cases in infants are indicative of general miliary tuberculosis. The prognosis is generally bad, but not always fatal. A negative von Pirquet must not be allowed to mislead one in the presence of papulo-necrotic tuberculides.

F. R. B. ATKINSON.

The nascent iodine treatment of lupus nasi (*Brit. Med. Journ.*, 1913, i, p. 767).—**P. W. Bedford** gives the clinical history of a girl, aged 12 years, who suffered from lupus of the nose, and who also had tuberculous kyphosis and scoliosis, and at one time had had a tuberculous ulcer on the wrist which was cured by tuberculin. The nasal condition was not affected by the tuberculin treatment. A solution consisting of 1 pint of a 3 per cent. solution of 10 volumes hydrogen peroxide, to which had been added 1 oz. of acetic acid (B.P.), was applied hourly to the nose. A nasal spray was also employed, to make certain of attacking that portion of the disease that lay within the nasal cavity. This local treatment, combined with tuberculin therapy, effected a cure.

J. ALLAN.

Creeping eruption (*Journ. Amer. Med. Assoc.*, 1913, LXI, p. 247).—**G. L. Rudell** says that creeping eruption is a very rare disease, and the recovery of the larva which produces it is even rarer still. He reports two cases, one of which was a farmer's boy, aged 13 years, who had an eruption on his face extending from his forehead downwards in two serpiginous lines. The condition started as an inflamed spot above the left eye and in five days had extended to the chin. From the lower extremity of each burrow the larva was extracted. Illustrations are given, but the larvæ are not named.

T. R. WHIPHAM.

Herpes zoster by contagion (*Bull. Soc. de Péd. de Paris*, 1913, xv, p. 200).—**J. Galippe**.—A boy, aged 15 years, developed right intercostal herpes in the region of the fourth dorsal nerve. Four or five days later his friend, aged 14 years, who lived in the same house and saw him daily, developed herpes in the area of the second and third cervical nerves on the right side. There was no family history of tuberculosis, but the fathers of both children were alcoholic (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1912, ix, p. 360.)
J. D. ROLLESTON.

Lymphangioma circumscriptum (*Journ. Amer. Med. Assoc.*, 1913, lxi, p. 333).—**P. E. Bechet** reports a case of this comparatively rare dermatosis in a girl, aged 13 years. The disease began when she was three years old on the upper part of the thigh, first as a reddish inflamed patch on which in a very short time vesicles appeared. The lesion slowly increased in size until four or five years ago; since then it has remained stationary. The only symptom is a burning and itching sensation occasionally during an attack of indigestion. The patch is about 4 by 5 in. in diameter and consists of an aggregation of pearly vesicles of translucent aspect. In a number of the older lesions the translucency is lost and a slight verrucous appearance assumed. Many of the lesions are of a purplish or blackish colour owing to the rupture of minute capillaries and the admixture of blood with the lymph contents of the vesicles. The vesicles themselves are firm, thick-walled and difficult to rupture, being covered by the entire epidermic layer. One or two nævoid nodules are scattered throughout the mass and some areas of pigmentation can be observed.
T. R. WHIPHAM.

Identical congenital malformations in syphilitic twins (*Journ. de Méd. de Bordeaux*, 1913, lxxxiv, p. 559).—**Lefour and Balard** report the case of a woman with recent syphilis who gave birth to male twins, each of which presented identical malformations—lumbar spina bifida, hydrocephalus, and talipes equino-varus of the right foot. The twins were uniovular with a single chorion. The mother was infected with syphilis about three months before she became pregnant. There was no former history of syphilis in either parent, and there were two healthy children, aged 14 and 2 years. The Wassermann reaction was positive in the mother but negative in the infants. The mother had no secondary symptoms during pregnancy. The authors attribute the malformations to syphilis, but remark that such lesions are usually of a quaternary nature and are rare in recent infection. They point out that the Wassermann reaction is often negative shortly after birth, but becomes positive later on.
C. F. MARSHALL.

Lange's colloidal gold chloride test on the cerebro-spinal fluid in congenital syphilis (*Journ. Amer. Med. Assoc.*, 1913, lxi, p. 13).—**C. G. Grulee** and **A. M. Moody** are of opinion that the precipitation of colloidal gold by the cerebro-spinal fluid is a confirmatory aid of much value in the diagnosis of cases of congenital syphilis. Details of the test are given together with tables of cases in which it has been employed. It would appear that treatment distinctly modifies the reaction, but to a much less degree than that of Wassermann.
T. R. WHIPHAM.

The Wassermann reaction in hereditary syphilis, in congenital deformities, and various other conditions in infancy (*Am. Journ. Dis. Child.*, 1913, vi, p. 166).—**L. Emmett Holt**.—Of thirty-one cases of

congenital syphilis thirty gave a positive Wassermann reaction. The negative case was an infant of five months who had been treated regularly with inunctions of mercury for a period of three months. Eight other children who had been treated with mercury but not for a long period nor regularly all gave a positive reaction. Of 178 cases not regarded as syphilitic, 167 gave negative and 11 positive reactions. Twelve of the negative cases came to autopsy, and none showed any lesions suggestive of syphilis. Holt thinks that syphilis does not play an important part in the production of common congenital deformities, since not a single positive reaction was obtained in fifty-six consecutive cases. Of sixty-two cases suffering from malnutrition or marasmus only five gave a positive reaction. Of the remaining fifty-seven nearly one third had very considerable enlargement of the liver or spleen, or both. Holt concludes that syphilis is not a common cause of marasmus.

J. D. ROLLESTON.

Wassermann's reaction and salvarsan in congenital syphilis ('*Gazz. d. osp.*,' 1913, xxxiv, p. 1032).—E. Mensi had Wassermann's reaction performed in seven children whose history and symptoms were suggestive of congenital syphilis, and in three in whom the disease was obviously present. In the former the reaction was constantly negative, and in the latter as constantly positive. Four children, one of whom was a newborn infant, and the rest aged 15 months, 2 years and 6 years respectively, received intra-gluteal injections of salvarsan. Rapid improvement in the skin lesions took place in all, but the newborn child died of bronchopneumonia five days after the injection.

J. D. ROLLESTON.

A study of the Wassermann reaction in a hundred infants ('*Am. Journ. Dis. Child.*,' 1913, vi, p. 162).—K. D. Blackfan, S. T. Nicholson and T. W. White examined the blood of 101 infants. In a group of 68 infants from a foundling hospital, none of whom gave a history or evidence of hereditary syphilis, the reaction was negative in 66, doubtful in 1 and positive in 1. In another group of 33 infants, from St. Louis Children's Hospital, in 2 of whom the family history, and in 1 the family history, past history, and physical evidence were suggestive, the reaction was negative in 32 and positive in 1. The writers remark on the wide difference of their results from those of Churchill (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1913, x, p. 44), who found a positive reaction in 39 out of 102 children, and maintain that further studies of larger series of cases are necessary to determine the prevalence of hereditary syphilis in hospital children.

J. D. ROLLESTON.

Different results of the Wassermann reaction in twins ('*Ann. de Méd. et Chirurg. Inf.*,' 1913, xvii, p. 273).—Cassoute found this reaction positive in one child, while it was negative in its twin, aged 21 days. They suggest that the anti-complementary properties of the serum are acquired after birth, as eight days later the reaction was positive in both infants. An absolute value should not be given to the Wassermann reaction in the newborn, and the results should be interpreted by the light of clinical facts.

J. PORTER PARKINSON.

Sydenham's chorea and Wassermann's reaction; injection of salvarsan ('*L'Echo méd. du Nord*,' 1913, xvii, p. 68).—Pierret describes the case of a girl, aged 15½ years, suffering from chorea, chiefly of the left side, with no rheumatic history. Wassermann's reaction was positive. An

ABSTRACTS FROM CURRENT LITERATURE.

intravenous injection of '30 cgr. of "606" was given, and the condition markedly improved. There was no history or sign of syphilis.

F. R. B. ATKINSON.

Syphilitic chorea ('*Münch. med. Wöch.*, 1912, LIX, p. 2102).—**G. Flatau** records a case of an illegitimate male child, bottle-fed, who at the age of 4½ months fell ill with diarrhoea and vomiting followed by symptoms of meningitis. After coma of nine days' duration symptoms of chorea developed, which persisted for five years. Wassermann's reaction in the blood was positive. There was no history of tonsillitis, rheumatism, or heart disease, and the ordinary treatment for chorea entirely failed. No improvement followed two intravenous injections of salvarsan, but a course of mercurial inunction produced considerable improvement, and Wassermann's reaction became negative.

J. D. ROLLESTON.

The luetin reaction in infancy ('*Am. Journ. Dis. Child.*, 1913, VI, p. 171).—**A. Brown**.—Noguchi, in 1911, using numerous strains of the *Spirochaeta pallida* grown on solid media and then ground in a mortar, produced the substance known as luetin. An intradermal injection of '05 c.c. in trikresol is made in the skin of the upper arm, and a control of ground agar in 0·5 per cent. trikresol is injected in the opposite arm. Within one to two days the luetin injection site shows a red indurated papule, which slowly increases during the following four days, and then subsides, leaving brown desquamating induration. This slowly disappears in a few weeks. Occasionally a pustule is formed. The control shows within eighteen to twenty-four hours a slight erythema round the puncture, which disappears in two days. Of 134 tests made at the Babies' Hospital, New York, 34 were made on syphilitic infants and 100 on controls. All but four of the former gave a positive reaction. Of the latter ninety-six were negative and four positive, in only one of whom Wassermann's reaction was positive. In the negative luetin cases Wassermann's reaction was also negative. The syphilitic patients with a negative luetin reaction were all cases of severe infection, and either the hæmoglobin was very low or the skin was much thickened, so that one could not be certain of a positive reaction. Of fourteen infants in whom the test was repeated after injections of salvarsan, eight became negative in an average period of five weeks after the first injection of salvarsan. In each case the Wassermann reaction corresponded with the luetin test.

J. D. ROLLESTON.

A case of cervical ribs of heredo-syphilitic origin ('*Bull. et mém. Soc. méd. Hôp. de Paris*, 1913, XXXVI, p. 98).—**E. Gaucher** and **O. Crouzon**.—A woman, aged 29 years, in whom the presence of heredo-syphilis was proved by the presence of interstitial keratitis, deafness, and a positive Wassermann's reaction, was found to have a large cervical rib of the thoracic type on the right, and a small corresponding rib on the left. There were no symptoms attributable to the presence of the ribs.

J. D. ROLLESTON.

Raynaud's disease as a symptom of hereditary syphilis ('*Jahrb. f. Kinderheilk.*, 1913, LXXVIII, p. 177).—**A. Bosányi** records two cases. In the first the symptoms of Raynaud's disease occurred at the age of 18 months, and were not accompanied by any other sign of syphilis but a positive Wassermann's reaction. The symptoms disappeared after an intramuscular injection of salvarsan, but recurred six months later, disappearing again under the same treatment. Wassermann's reaction was negative in

the interval, but became positive during the relapse. In the second case in which there was no relapse of Raynaud's disease nor of syphilis both diseases appeared together and retroceded simultaneously under salvarsan treatment. In the first case the right hand and both feet were affected in the primary attack, and the left hand as well in the relapse. In the second case both hands and both feet were affected. J. D. ROLLESTON.

Incidence of inherited syphilis in congenital mental defect (*'Lancet,'* 1913, II, p. 861).—J. L. Gordon tested the blood-serum of 400 patients in the asylums of the Metropolitan Asylums Board suffering from various forms of mental defect, and found a positive Wassermann's reaction in 66 cases, or 16.5 per cent. In only 11 of the 66 could stigmata of syphilis be found, and in only 1 was there definite history of syphilis in both parents. On the other hand, as a negative reaction was obtained in cases which showed stigmata of inherited syphilis, the above figures probably under-estimate the full incidence of the infection.

J. D. ROLLESTON.

Salvarsan versus Profeta's law (*'Journ. Amer. Med. Assoc.,'* 1913, LXI, p. 95).—A. Ravogli points out that the Wassermann test has destroyed Colles's law. The mother of a syphilitic infant has herself not escaped infection, but is shown to have the disease, it may be in a latent form which will not become evident until later. Likewise Profeta's law that the child of a syphilitic mother acquires a congenital immunity, at all events for a time, no longer holds good, as is shown by the following case. An Italian labourer had syphilis and was treated with injections of grey oil for a time, when he ceased attending. He was subsequently joined by his wife from Italy and infected her in due course. Both were treated with salvarsan, the woman being in the beginning of pregnancy. Later the husband gave a negative Wassermann reaction, but the wife refused to have the test made. The pregnancy ended in a miscarriage, but subsequently she gave birth to a well-developed child, which showed no sign of lues. When the child was a few months old the mother developed mucous patches on the mouth. These were followed by the appearance of a lesion on the baby's chin, enlargement of the submaxillary and cervical glands and a macular syphilide on the child's face, trunk and limbs. In this case a mother who was not cured of syphilis gave birth to a healthy child and subsequently infected him from her mouth. At the time of pregnancy the spirochætes were not able to reach the fœtus, who was born healthy, but owing to the mother's neglect of treatment they again became active at a later period. Children are born either infected or healthy. Immunity in syphilis does not exist, and when a child born of a syphilitic mother is not infected, it shows that it has latent syphilis, which sooner or later will manifest itself.

T. R. WHIPHAM.

Reviews.

TRANSACTIONS OF THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS. London: Adlard & Son, 1913. Post free 5s.

THIS Association met in London on August the 4th and 5th, and was opened by the Prime Minister.

The first session was devoted to a consideration of tuberculin treatment,

a general survey of which was given by Dr. H. Mackenzie, who considered amongst other things tuberculin as a diagnostic and as a remedy. He believed that it was rarely necessary to employ the substance as a diagnostic, as he considered that cases of tuberculosis which could not be diagnosed without it were likely to do well under ordinary hygienic treatment. A negative test after three consecutive tests was not absolutely trustworthy. He considered that, on starting treatment, $\frac{1}{1000}$ th to $\frac{1}{100}$ th part of the reaction dose, which, generally speaking, was $\frac{1}{1000}$ th c.cm., was the correct initial dose, as he did not believe in reactions. The dose should never be doubled. Tolerance was not of long duration, and might disappear after a few months. The febrile and active cases were not good subjects for tuberculin. He was uncertain of the value of tuberculin, and considered that there was no certain proof that it by itself would arrest, cure, or improve a larger number of cases than other measures.

Dr. Woodhead discussed at length the use and abuse of tuberculin, and considered that the only safe method was to avoid all but minimal reactions.

Dr. Lydia Rabinowitsch-Kempner discussed the nature, preparation and varieties of tuberculin, and stated that no curative influence had been exercised by it.

Prof. Béraneck discussed his own tuberculin. He believed that fever was not a contra-indication, and suggested the institution of preventive treatment in children in contact with the disease, as he found his tuberculin inoculated into a normal guinea-pig often augmented its resistance to a later inoculation with tuberculosis.

Prof. Sahli condemned the use of tuberculin for diagnostic purposes, and disbelieved in reactions.

Dr. Raw was a great believer in tuberculin in mild doses, the maximum of which should be $\frac{1}{100}$ mgrm. of dried bacillary substance. He chiefly used Koch's new tuberculin, bovine and human, and believed that more complete immunity resulted from using opposite tuberculins. He drew attention to the importance of being satisfied that there was no suppuration in the body, otherwise the injection might liberate the bacilli from a focus. He generally stopped the tuberculin if three consecutive negative examinations for tubercle bacilli were reported. He also considered the subject of dosage and method of treatment.

Dr. White, of Pittsburg, stated that tuberculin produced no protection against future infection.

Dr. Sutherland considered the use of tuberculin in dispensary practice and his results from the use of various tuberculins at the St. Marylebone Dispensary on 130 patients, but as only thirty-five showed tubercle bacilli in the sputum, the results are not very convincing.

Dr. Bardswell described his results at Midhurst Sanatorium, and as a result of his experience found that the remedy had no appreciable effect in general, but 5 per cent. more patients were discharged free of bacilli than in the years before tuberculin was used. He did not believe in producing reactions.

Sir James Fowler deprecated its use in cases of fever, and did not find it favourably influenced the course of the disease in the majority of cases. He was also strongly opposed to the production of reactions.

Sir StClair Thomson did not find that laryngeal cases were, as a whole, benefited by tuberculin.

Dr. Rist, of Paris, discarded its use in febrile conditions, and did not obtain any success from its employment.

Dr. Rennie described his experiences in Sheffield, where the results were favourable.

Dr. Amrein, of Arosa, drew attention, amongst other things, to iron-tuberculin, from the use of which he has obtained excellent results. The high-altitude treatment with tuberculin produced 62.06 per cent. positive results.

An appendix, consisting of a report from various foreign authorities, was presented, some of whom obtained excellent results from its use, and others found it of little or no value.

On the second day of the Conference, which was devoted to the consideration of the need for the co-ordination of anti-tuberculosis measures, the discussion was opened by Sir Robert Philip, and continued by Dr. Biggs, of New York, Dr. White, of Pittsburg, Dr. Rist, of Paris, and others. We would advise all medical men to study the Transactions of the Congress, from which they will derive much valuable information.

F. R. B. A.

CHLORIDE OF LIME IN SANITATION. By ALBERT H. HOOKER, Technical Director, Hooker Electro-Chemical Company. 1913. New York: John Wiley & Sons. London: Chapman & Hall, Ltd.

THE aim of the book is to bring under review the merits of chloride of lime in sanitation. After a brief introductory chapter, in which some notes of historical interest are given and in which the *rationale* of the process is discussed, the author deals with the value of chloride of lime in water purification and sewage disinfection. Among other things, there is a section on the usefulness of chloride of lime in the war against the ubiquitous house-fly. Almost 150 pages are devoted to abstracts from papers germane to this subject, there being no less than 442 references. The book should prove of special interest to those engaged in public health work.

J. A.

THE ADMINISTRATIVE CONTROL OF SMALLPOX. By W. McC. WANKLYN, B.A.Cantab., M.R.C.S., L.R.C.P., D.P.H. London: Longmans, Green & Co., 1913. Price 3s. 6d. net.

The present work is intended as a companion volume to "How to Diagnose Smallpox," which was recently reviewed in this Journal (*v. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1913, x, *p.* 527).

After introductory chapters on the character of epidemics and some points in the natural history of smallpox Dr. Wanklyn discusses the actual details of administration, such as the removal, or, as he picturesquely terms it, the "telephoning away" of the case, inquiry into the source of infection and the date of appearance of the rash, the observation and vaccination of contacts, disinfection, etc. He points out that a smallpox epidemic is always an expensive affair, and that it is the cheapest policy to spare no expense at the outset. An interesting chapter is devoted to a description of the way in which a complicated attack was cut short by the prompt action of the medical officer of health.

Dr. Wanklyn is to be congratulated on having produced another most readable book which should prove a useful guide to all concerned in the administration of public health.

J. D. R.